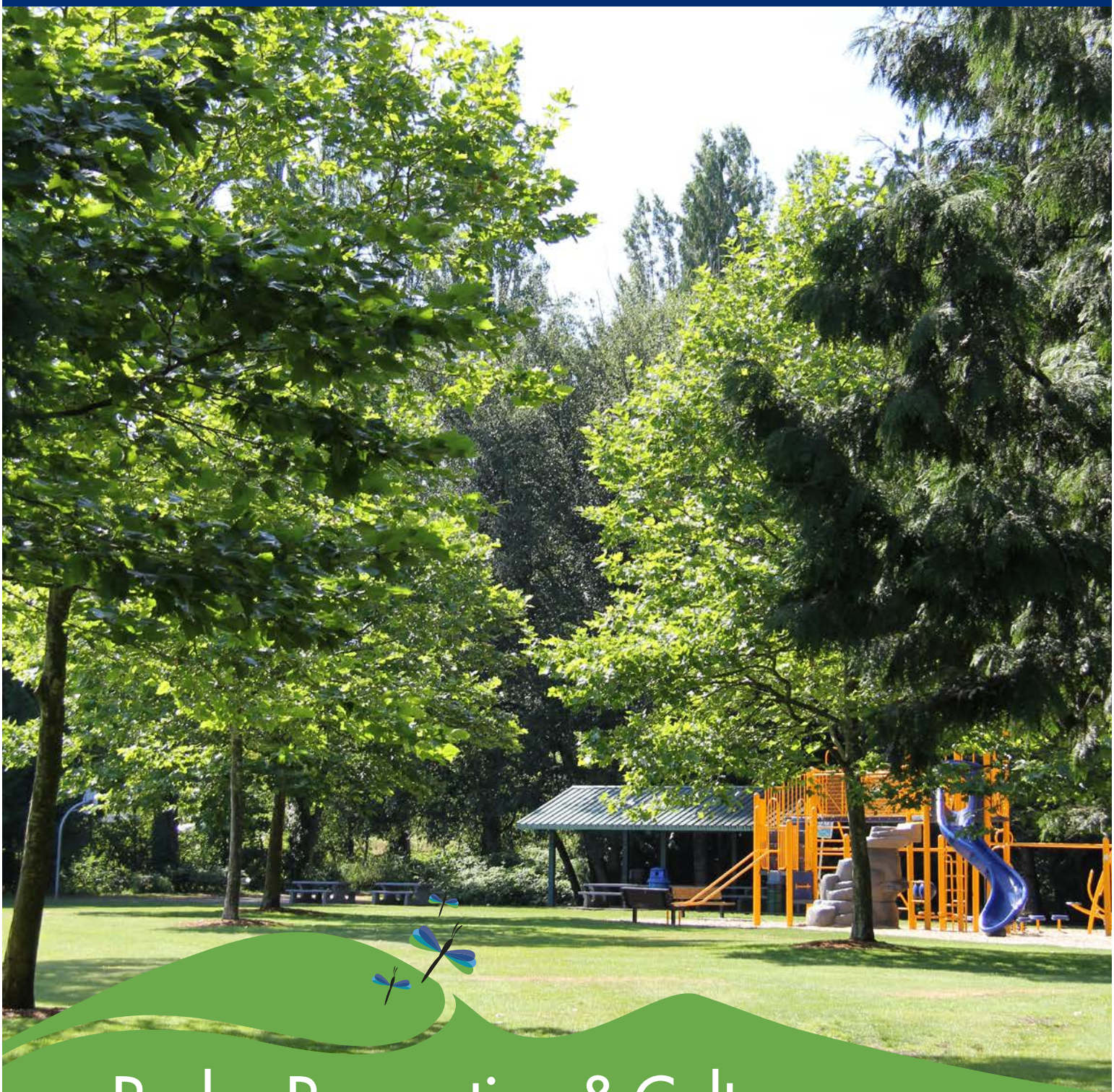
TREES in Abbotsford

Urban Forest Strategy

Key Findings Report, Oct 28, 2019



Parks, Recreation & Culture

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EXECUTIVE SUMMARY

This Key Findings Report serves to record the work done to date to support preparation of Abbotsford's Urban Forest Strategy. The Report provides an account of:

A. Review of existing plans, policies and bylaws.

B. Review of current urban forest management program.

C. Program comparison with other municipalities.

D. Proposed goals and indicator tables.

The inventory and analysis of Abbotsford's urban forest canopy cover and tree inventory data are still being completed. However, this Report provides key findings to date from interviews with staff and a review of the City's existing urban forestry program and policy.

A. Review of existing plans, policies and bylaws

A variety of policies influence how and where Abbotsford's urban forest will grow in the future. These plans, policies and bylaws have been reviewed to identify where there are gaps in support for a best practices urban forest management program, and where existing links could be strengthened between urban forestry and other City strategic priorities.

B. Review of current urban forest management program

Staff interviews focussed on identifying strengths, weaknesses, opportunities and threats (SWOT) in Abbotsford's current urban forest management program. Five themes structured the review of Abbotsford's urban forestry program:

- Planning
- Planting
- Management
- Protection
- Engagement

A SWOT analysis summarizes the key findings from staff interviews within each of these themes.

C. Program comparison with other municipalities

Aspects of Abbotsford's urban forestry program were compared with Delta, Surrey, Langley (Township) and Richmond. Like most communities in the Lower Mainland and BC generally, Abbotsford has experienced a net loss of canopy over time. Canopy cover in Abbotsford's Urban Containment Boundary is comparable to Surrey and Langley. However,

Abbotsford has a comparatively small inventory of street and park trees relative to other communities; this is because much of the urban forest is found in uninventoried natural forest stands on public and private property. All municipalities reviewed have a tree bylaw in place.

D. Urban forest indicators, report card, and proposed goals

This review concludes with the development of an urban forest report card for Abbotsford. The report card includes twenty-nine criteria within five themes that are proposed for use in the draft urban forest strategy:

1. Planning: Plan for a connected green network of trees and natural assets.
2. Planting: Grow the urban forest sustainably so that tree canopy provides a stable supply of ecosystem services.
3. Management: Manage public trees so that they are healthy and safe throughout their useful life expectancy.
4. Protection: Protect trees strategically on public and private land to maintain a connected green network.
5. Engagement: Partner broadly to foster urban forest stewardship, increase knowledge and build capacity to implement urban forest management goals.

Across all goals, Abbotsford's urban forestry program in 2019 achieves "fair" to "good" ratings. The Urban Forest Strategy will aim to shift the program towards an overall "good" and eventually "optimal" rating by recommending actions for implementation and establishing measurable targets to track progress over time.

2019 URBAN FOREST REPORT CARD

This Report Card summarizes the current state of Abbotsford's urban forest management program according to a set of indicators adapted from work by the US Forest Service and Davey Institute . The goals and indicators have been modified to suit Abbotsford's local context and the specific policy tools available in British Columbia.

Section D of the Key Findings Report details Abbotsford's performance on each indicator.

Legend

- Poor
- Fair
- Good
- Optimal

Target	Rating
PLAN	
Awareness of the urban forest as a community resource	Fair
Green infrastructure asset valuation	Fair
Clear and defensible urban forest canopy assessment and goal	Fair
Municipal-wide biodiversity or green network strategy	Fair
Interdepartmental and interagency cooperation on urban forest strategy implementation	Good
Municipal urban forestry program capacity	Fair
Urban forest funding to implement the strategy	Fair
GROW	
City tree planting program design, planning and implementation	Good
Development requirements to plant trees on private land	Good
Streetscape and servicing specifications and standards for planting trees	Fair
Equity in planting program delivery	Poor
Forest restoration and native species planting	Good
Selection and procurement of stock in cooperation with nursery industry	Fair
Climate adaptation/mitigation integration with tree planting projects	Fair
MANAGE	
Tree inventory	Good
Knowledge of trees on private property	Good
Natural areas inventory	Good
Maintenance of publicly-owned, intensively managed trees	Fair
Extreme weather planning	Good
Tree risk management	Fair
Pest and disease management	Fair
Waste biomass utilization	Fair
PROTECT	
Regulating the protection and replacement of private and City trees	Good
Regulating conservation of sensitive ecosystems, soils or permeability	Good
Interdepartmental cooperation on urban forest strategy implementation	Good
Internal protocols guide City tree or sensitive ecosystem protection	Good
Standards of tree protection and tree care during development	Fair
PARTNER	
Citizen involvement and neighbourhood action	Fair
Involvement of large private and institutional landholders	Fair
Urban forest research	Fair
Regional collaboration	Fair

INTRODUCTION

This background review serves to record the work done to support preparation of Abbotsford's Urban Forest Strategy. The Background Review provides an account of:

A. Review of existing plans, policies and bylaws: This section summarizes relevant policy pieces to inform the development of the vision, goals and strategies for the Urban Forest Strategy.

B. Review of current urban forest management program: This section summarizes the current urban forest management program work plan and budget.

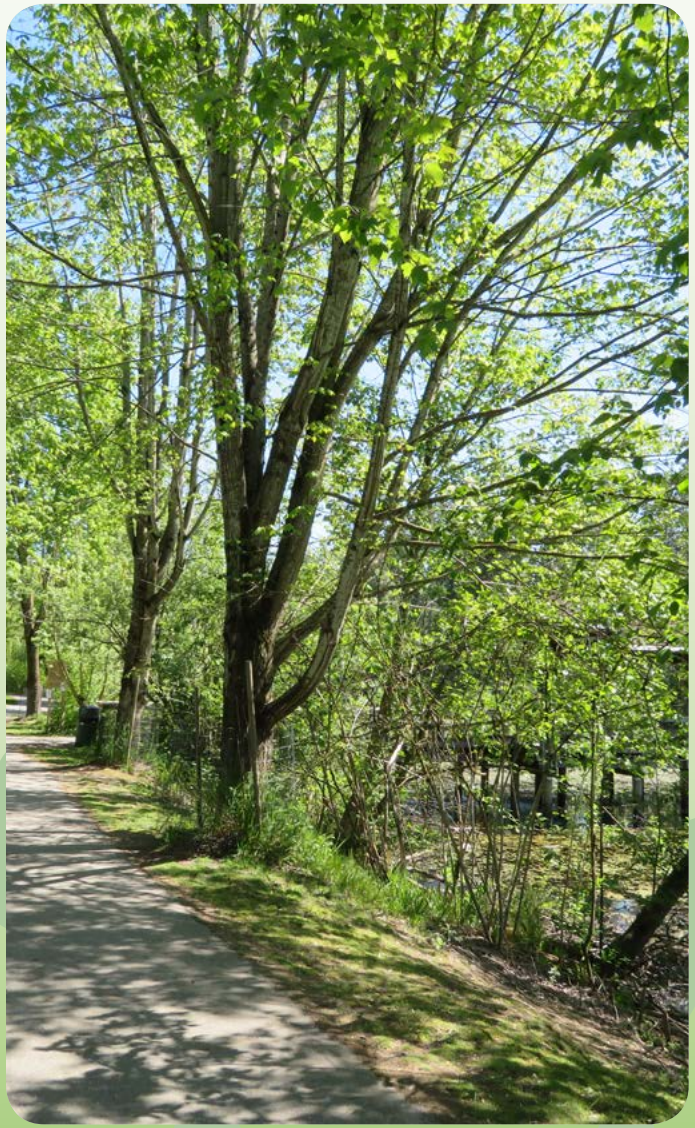
C. Comparison with other municipalities: This section provides some municipal comparisons for key elements of the urban forest management program.

D. Proposed goals and indicator tables: These tables summarize the criteria and indicators for assessing Abbotsford's urban forestry program and developing the urban forest strategy.

The technical analysis of urban forest canopy cover, ecosystem services and urban forest inventory data is underway and the status and trends will be reported on in the draft Urban Forest Strategy.

A. REVIEW OF RELEVANT PLANS, POLICIES AND BYLAWS

A variety of policies influence how and where Abbotsford's urban forest will grow in the future. At a high level, the Regional Growth Strategy (RGS) and the Official Community Plan (OCP) guide future land use for Abbotsford and establish the broad priorities that drive policy setting, programming and infrastructure management within the City. Council's Strategic plan sets the more immediate priorities that the City will focus on during a Council's term. Strategies and plans like the 2018 Parks, Recreation and Culture Master Plan, neighbourhood plans and the Urban Forest Strategy are guided by the RGS and OCP to provide the more detailed vision and policy framework for specific places or infrastructure. These strategies are then implemented using various planning tools that shape land use, as well as by the City's programs, capital projects and operations. Those plans, policies and bylaws were reviewed to understand how they relate to urban forest management. The City's Integrated Storm Water Master Plan is in process and is not yet available for review.



Fish Trap Creek Park, Diamond Head Consulting

The City of Abbotsford documents that were reviewed for this report include:

- The Official Community Plan;
- Parks, Recreation & Culture Master Plan;
- Community Sustainability Strategy;
- Heritage Strategic Plan;
- Neighbourhood Plans;
- Tree Protection bylaw No. 1831;
- Development Bylaw, 2011 (currently under review); and
- Urban Forest Canopy Technical Analysis.

These documents contain vision statements and specific guidance or recommendations that can either be integrated into the Urban Forest Strategy (UFS), or that the UFS can support through its recommendations. Figure 1 represents how these different policies and plans fit in the context of the UFS. Aspects of each document that are relevant to the UFS are described in the following sections.

Official Community Plan (OCP)

The OCP supports the UFS in numerous ways, from the overarching vision statement to specific policies and implementation approaches. The UFS goals can integrate with and help implement the OCP's vision where it references a green city with improved quality of natural areas and reduced greenhouse gas emissions. The UFS can address climate threats to both the City and the urban forest through its green infrastructure functions, by recommending best practices for the City's tree management, and by enhancing and restoring ecological links between natural areas and public open space. On the urban forest specifically, the OCP seeks to expand and strengthen a healthy and diverse tree canopy to improve air quality, capture carbon dioxide, reduce heat island effects, support public health and quality of life, and create beauty in the city using several approaches:

- Establish a tree canopy coverage target;
- Increase the urban forest to a determined target in public spaces; and
- Require tree conservation strategies, and street tree plantings and landscaping in all development and infrastructure projects. Ensure street planting are at close intervals and with suitable growing conditions to allow a mature "kissing canopy" on all streets over time.

Specifically, the UFS will include recommendations to support OCP implementation by:

- Establishing benchmarks and targets for tree canopy cover, diversity and tree health;
- Defining best practices related to species selection, tree spacing, soil volume, tree plating and maintenance that will support streets with full cover of healthy, mature "kissing" tree canopy and the implementation of Development Permit Guidelines;
- Identifying significant stands of trees based on LiDAR and ground truthing for potential conservation;
- Reviewing Abbotsford's Tree Bylaw to recommend changes that will clarify information requirements and improve tree conservation and replacement outcomes;
- Identifying planting opportunities and canopy potential across different land uses;
- Encouraging increased integration of natural assets into asset management systems to enable improved accounting for ecosystem services in City infrastructure planning; and
- Encouraging stormwater infiltration as a means of improve tree establishment and health outcomes.

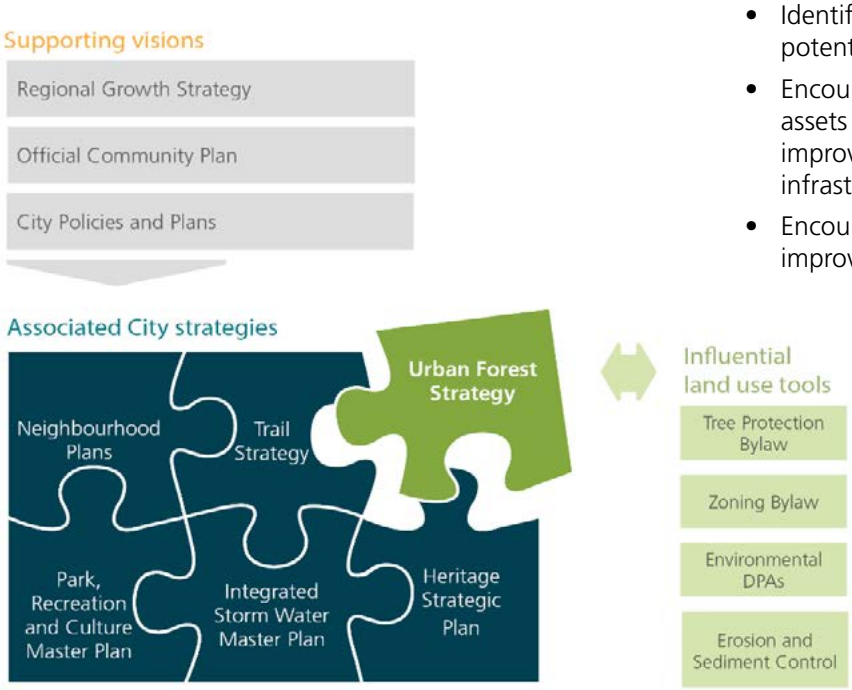


Figure 1. Abbotsford's higher-level plans and planning tools related to the Urban Forest Strategy.

2018 Parks, Recreation & Culture Master Plan

The Parks, Recreation & Culture (PRC) Master Plan addresses natural areas and urban forestry, noting that Abbotsford's natural areas and the urban forest keep the city beautiful, help to clean the air, absorb pollution and greenhouse gases, maintain cooler temperatures for the comfort of people and the survival of fish and wildlife, and they reduce erosion and help to mitigate climate change. The PRC Master Plan highlights that these natural features also protect residents' access to nature, which is proven to improve mental health and well-being.

The community survey and focus groups during the development of the PRC Master Plan highlighted priorities for:

- Protection of environmental assets;
- More natural areas and trees in the city;
- Improved maintenance of natural areas, e.g., invasive species; and
- Update of the Tree Protection Bylaw.

Relevant to the UFS, the plan identified issues and opportunities as:

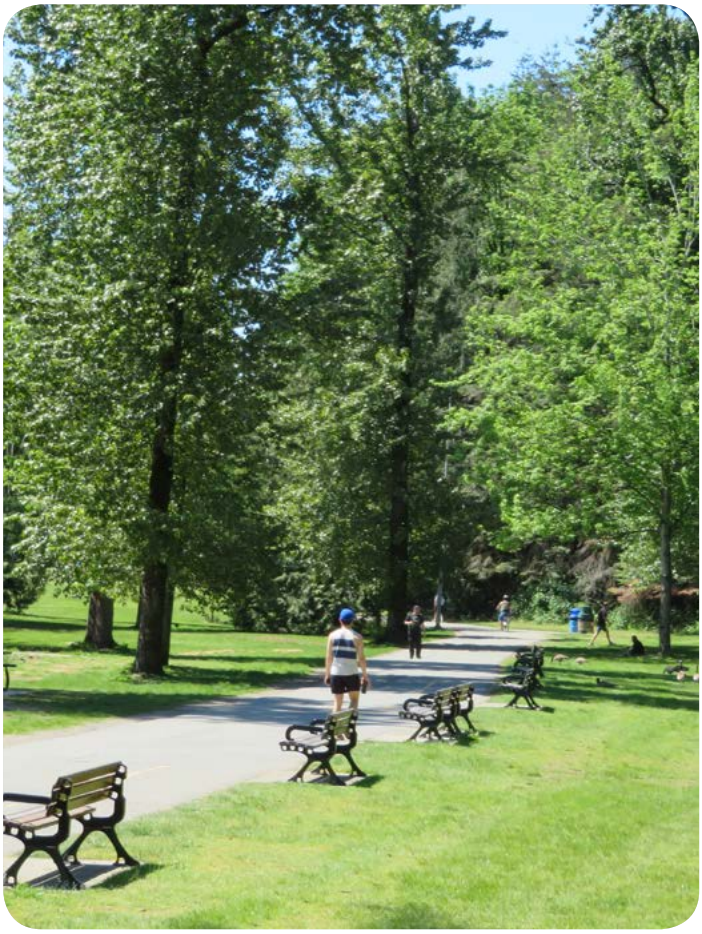
- Natural areas in parks are not covered by parkland acquisition standards or development cost charges. As development occurs, natural areas can be impacted. The opportunity is to identify and protect natural areas within urban areas for environmental and quality-of-life reasons;
- The City should continue to keep up with trends and adapt best management practices as needed. Opportunities include low-impact development, increasing efforts to manage invasive species, and partnership with Indigenous peoples. Communications about the importance of protecting natural areas is also critical; and
- The City does not have an Urban Forest Management Strategy that could establish targets, strategies and policies for protecting existing trees and enhancing the urban forest

Relevant to the UFS, the long-term directions defined were:

- The Urban Forestry Plan will align with environmental sustainability, urban forestry management, including Tree Protection Bylaw for the 367.9 ha of parkland the City;
- Prepare an Urban Forest Strategy; and
- Update the Tree Protection Bylaw to reflect Abbotsford's needs.

The UFS will support the implementation of the PRC Master Plan by:

- Incorporating the themes identified in the community focus groups into the public engagement for developing the UFS;
- Defining best practices related to species selection, tree spacing, soil volume, tree plating and maintenance that will support streets with full cover of healthy, mature tree canopy and the implementation of Development Permit Guidelines;
- Identifying significant stands of trees based on LiDAR and ground truthing for potential conservation;
- Reviewing Abbotsford's Tree Bylaw to recommend changes that will clarify information requirements and improve tree conservation and replacement outcomes for public and private trees during development; and
- Exploring the potential for a City Tree Policy to guide tree removal and replacement decisions for public trees generally.



Mill Lake Park, Diamond Head Consulting

2013 Community Sustainability Strategy

The UFS can reinforce the Community Sustainability Strategy's 'Our natural environment thrives' section, which states:

"We are responsible stewards of the environment and are sensitive to our environmental impacts. We integrate our needs with that of the local and regional ecosystems that support thriving fish and wildlife populations. We value the services provided by our ecosystems exemplified by the clean air we breathe and water we drink. Innovations in our agricultural, resource extraction and land development practices have allowed us to enhance our natural environment and biodiversity. We continue to enjoy our natural areas for recreational purposes which contribute to improving our health, well-being and our overall quality of life."

2005 Heritage Strategic Plan

The Heritage Strategic Plan references 'Our Sylvan Heritage' (book by Susan Murray), which identifies a number of potentially significant trees in Abbotsford, and recommends the protection and commemoration of significant trees. It also recommends the development of guidelines for the maintenance and preservation of natural heritage features, including significant trees, culturally-modified landscapes, etc. The UFS can support the implementation of the Heritage Strategic Plan by including guidance and recommendations for significant tree protection and management.

Culture Strategy (In Process)

The City is currently developing a Culture Strategy which will address the cultural importance of natural areas and identify engagement opportunities to educate and inform a diverse population on the value of trees.

Neighbourhood Plans

Neighbourhood plans, developed within the Neighbourhood Planning Framework of the OCP, include the UDistrict, City Centre and Historic Downtown areas to date. Several neighbourhood plans, including McCallum, Clearbrook and others are still to be developed.

Neighbourhood plans must include elements guiding existing and proposed open space, natural environment areas and policy tool for implementation of the plans. These plans will influence how the urban forest changes as neighbourhoods develop. The UFS can support neighbourhood plans by:

1. Updating tree canopy cover metrics by neighbourhood.
2. Setting targets for canopy, diversity and tree health that can inform neighbourhood planning.
3. Defining best practices related to species selection, tree spacing, soil volume, tree plating and maintenance.
4. Identifying significant stands of trees based on LiDAR and ground truthing for potential conservation.

Tree Protection Bylaw No. 1831

The City's Tree Bylaw regulates tree protection and replacement on private land in the City. Given that the majority of the land area and urban forest is on private land, a Bylaw can be a very important tool for influencing City-wide canopy cover over time. In Abbotsford, a tree permit is required to cut trees except on some excluded lands, most notably the Agricultural Land Reserve (ALR). The Bylaw does not prevent tree cutting so long as the person obtains a tree cutting permit and replaces trees at either the 2:1 or 3:1 ratio (depending on size). While a permit may be refused on several grounds, the language to determine whether or not cutting or pruning is necessary is very broad; for example, one reason cutting is necessary is 'to avoid a nuisance or obstruction', which could cover leaf fall in the autumn, views through a window or any number of perceived issues from the perspective of the applicant. As a result, the Tree Bylaw primarily functions to regulate tree removals, require replacements and as an opportunity for staff to educate applicants about the benefits of retaining trees. When tree replacements cannot be met, applicants may be directed to plant trees on City property or pay cash-in-lieu.

The UFS process provides an opportunity for community engagement on the topic of tree protection and will provide rationale for any future updates to the Tree Bylaw. Any rationale will seek to balance the need for regulation with opportunities to provide incentives for tree preservation and planting.

One of the outcomes of this project will be proposed revisions. A likely focus will be clarifying tree replacement requirements for non-development and development sites, and within Streamside Protection and Enhancement Areas. The schedule for Significant Trees, which is presently blank, will also be addressed.

Development Bylaw, 2011

The Development Bylaw is currently under review. Given that tree cutting is permitted if a development permit expressly deals with the cutting or removal of trees from a property, there is effectively a parallel process for regulating development and non-development tree cutting and replacement. The Tree Bylaw could be clarified to provide more guidance for tree cutting and replacement on development sites that is currently dealt with in development permits. In terms of the creation of new landscapes, the Development Bylaw contains some standards that are not optimal for tree growth, such as tree strips that, at 1.5 m, are too narrow to support large trees. Prescribed soil depths and volumes are also inadequate to support large trees in new streetscapes. The UFS will recommend standards pertaining to trees to be considered for incorporation in future Development Bylaw updates.

Urban Forest Canopy Technical Analysis

The Urban Forest Canopy Technical Analysis calculated canopy cover within the Urban Containment Boundary for comparison years in 2005 and 2015. The study found that canopy cover in 2005 was 33% and canopy cover in 2015 was 31%. The key pattern in the decline was identified as clearing for land development. The study recommended to:

- Establish tree canopy targets, potentially for the city as a whole, for specific land uses, or for neighbourhoods;
- Update tree protection and other bylaws;
- Identify opportunities to protect and plant trees on private property;
- Work with the agriculture community on opportunities to protect and enhance tree canopy;
- Increase tree planting in existing and new parks and other public sites;
- Consider requiring developers to contribute to the costs of boulevard tree planting;
- Adopt Best Management Practices (BMP) for planting and maintenance;
- Monitor bylaws that require tree planting on private land; and
- Support and expand stewardship programs.

The UFS will reflect and expand on these recommendations.

B. SUMMARY OF CURRENT URBAN FOREST MANAGEMENT PROGRAM

This section briefly describes the current urban forest management program based on the outcomes of staff interviews and an initial workshop with senior staff summarized in Appendix 2. The review focuses on five themes :

1. Planning
2. Planting
3. Management
4. Protection
5. Engagement

The tables in the following sections highlight the strengths, weaknesses, opportunities and threats (SWOT) of particular note.

1. Planning

Strengths	Weaknesses
Support for the preservation and growth of urban forest is well integrated across City strategies and plans The public consistently prioritizes tree preservation, streets trees, greenways, trails and parks Interdepartmental communication and the Development Application Review Team (DART) engages the Urban Forestry Department Abbotsford still has a high number of unique species and ecosystems in its natural areas	Conflicts with utilities and infrastructure Spread of responsibilities for tree management and protection between Urban Forestry, Engineering and Development Services Inadequate space for tree retention or large tree replacement on newly developed lots Lack of resources to review tree plans for development permits, monitor and enforce planned tree retention, removal and landscape creation for tree planting Lack of resources to review landscape plans and follow up on implementation of approved landscape plans
Opportunities	**Threats**
Clarify tree retention/replacement outcomes, standards and specifications for development Solidify staff and Council recognition of urban trees as infrastructure assets and incorporate natural assets into the asset management system Develop a City Tree policy to guide internal tree removal and protection decisions and define service standards Define standard solutions/technology for working around trees Create a Development Arborist position Consolidate tree management and protection under Urban Forestry or clarify roles and funding Identify urban forest ecosystems and corridors to prioritize for conservation as the City grows	High cost of changing construction practices to work around trees Lack of interdepartmental alignment in priorities or a process for resolving infrastructure conflicts to improve outcomes for trees Trees are not yet part of the City asset management system Regulatory tools are not adequate to implement the vision and policy intent for urban forests in the OCP and neighbourhood plans The City is not consistently leading by example on tree protection and retention

2. Planting

Strengths	Weaknesses
Improved quality of planting now that the City does all street and park tree planting Development Application Review Team (DART) refers plans to the different departments Cash-in-lieu fund is enabling increased public tree planting High success rate in obtaining grants for restoration tree planting Engaged NGOs are working in natural areas, coordinating volunteers and assisting with grants Starting to adjust species selection for climate adaptation and to incorporate stormwater interception and soil volume into City projects	Tree strips often have poor soil that does not meet the standards required in the Development Bylaw. Soil quality is frequently an afterthought during landscaping for development. Annual street planting numbers have had to be lowered to match the available resourcing for proper care of new trees The Tree bylaw and development permit process are not aligning to achieve good outcomes for tree retention or replacement Lack of a Development Arborist position to review landscape plans and planted stock leads to poor species selection, placement for site and quality There are numerous stands of pioneer deciduous on city property and no succession plans to guide their long-term transition to long-lived species
Opportunities	**Threats**
Update Development Bylaw and planting details to increase tree strip widths, soil volume, and include modular suspended pavement systems Develop full life-cycle cost comparison between designs and build for soil, structural soil, modular suspended pavement systems to provide adequate soil volume. Improve quality and design of street tree plantings in high density neighbourhoods where streets will provide most of the canopy cover Increase tree planting rates in streets and parks with accompanying increase in maintenance levels Create a Development Arborist position Create an inter-urban forest group to help communicate species diversity, climate adaptation and stock quality requirements to nurseries Develop succession plans for natural areas Increase incentives for private land tree planting	Where canopy is being lost on private land, the public realm is not being adjusted to compensate by supporting large canopy trees Some streetscapes and development sites are not plantable due to shallow bedrock or insufficient permeable soil areas and volumes The placement of trees on private property is not always well coordinated with services and preliminary site plans are not guiding tree placement. Some trees are retained or replaced with a development and then owners get tree cutting permit because trees aren't successful or are too large for the available space Limited availability of quality nursery stock and of the species preferred for planting Climate change will increase challenges for tree establishment as well as demand for replacement trees and natural forest restoration

3. Management

Strengths	Weaknesses
Good tree well and mulching program Risk inspection and management program is in place in both natural areas and planted street and park trees (it excludes uninventoried trees in road ROWs which are under Engineering jurisdiction) Staff arborists are knowledgeable and qualified tree risk assessors Parks has a specific protocol for dealing with storm response on Park lands Good working relationships between City, high-quality tree service companies and contract arborists	Current inventory has not been maintained but mobile data collection should improve updates Not clear who does maintenance when a tree has not been planted by the city but ownership is shared Lack of documented policies and procedures for pest and disease management and city-wide storm response Lack of proactive inspection of 'Uninventoried' trees in road rights-of-way outside boulevards (Engineering jurisdiction) Landscape drawings are not always being provided by developers even though the Development Bylaw requires them
Opportunities	**Threats**
Work more closely with BC Hydro to communicate pruning standards Transfer responsibility for trees in unmanaged road ROWs (presently the responsibility of Engineering) to Urban Forestry for management Apply cost-sharing formula for maintenance of shared trees Transition to digital record collection and work order management Succession planning for parks and natural areas Require windthrow assessments when new stand edges are created Develop an asset management policy to ensure operating funds for tree maintenance are sufficient.	Many natural areas are pioneer deciduous stands vulnerable to storm damage Staff are exposed to sharps, biohazards, dumping and rodents Camps in parks are bringing risk of fire ignition Climate change, pests and disease and extreme weather are increasing the rate of tree removals, including species-wide declines in some instances Windthrow risk is increased with new forest edges created during development

4. Protection

Strengths	Weaknesses
City arborists go to applicant properties to provide face to face service interactions and that consultation has led to preservation of many trees as result of discussion of actual risks, priorities, and potential alternatives to removal Subdivision approving officer can work with applicants to retain trees consistent with OCP and neighborhood plans Environmental Coordinators assigned to development permits when the Environmental Development Permit Area (EDPA) applies Interdepartmental communication is good Interdepartmental communication and the Development Application Review Team (DART) engages Urban Forestry when tree conflicts are identified	The parallel process of the Tree Bylaw and Development Permits does not adequately support the Development Permit Process to ensure long-term tree retention/ replacement No regulation of removal and replacements in the ALR for non-farm uses Lack of a Development Arborist position to review arborist reports and provide oversight for tree protection measures Lack of clear information requirements for arborist reporting standards The Tree Bylaw does not include provisions for appropriate tree replacement outcomes in Environmentally Sensitive Areas (ESA). Lack of in-house design and construction solutions for tree retention As the urban core densifies, neighbourhoods that have a lot of trees are losing them and zoning will not enable retention
Opportunities	**Threats**
Update the tree bylaw and establish a tree density target for all properties Develop a planned and strategic approach for where to retain trees and where to permit removals for development Improve information requirements for arborist reporting and tree protection during development Provide incentives to support the public in planting and maintaining trees on private property Clarify replacements required in EDPAs, replace to ministry standards Create a Development Arborist position Develop a range of 'approved' options for engineering alternatives to avoid cutting trees and tree roots Educate the public about where to plant private trees in relation to services Develop internal tree protection protocols to guide other departments in how to work around trees	Strengthening regulations on tree cutting under the current system risks penalizing people who have trees on their properties Public perception that private property rights are violated by tree protection efforts Lack of internal tree protection protocol for City projects risks public perception that the City is not meeting equivalent standards for tree protection and retention to those required on private land The number of tree permits issued to cut trees has been rising annually from 10 issued in 2011 to 506 issued in 2018

5. Engagement

Strengths	Weaknesses
Urban forester leads biodiversity walks with school groups and provided classroom and field-based teaching to BCIT's forestry students regarding disease management in forest stands Abbotsford/Mission Nature Club, Fraser Valley Conservation Society, religious and spiritual community groups coordinate volunteers and help get grants for natural area plantings Awareness of tree protection is growing in the community, partly as a result of business contacts between Urban Forestry (UF) staff and members of the public Regular corporate grant-funding from TD, TransCanada Trail, BC Hydro, and Tree Canada	Lack of awareness regarding the urban forest and its long-term importance, and what its management requires No formal mandate for staff to participate in or support urban forest research Untapped demand for stewardship opportunities
Opportunities	**Threats**
Cultural values vary across the city when it comes to planting and tree protection, which may correspond to different opportunities and challenges for growing/ protecting the urban forest Engage residents in urban forest planning and stewardship in their own neighbourhoods Increase public awareness of the connections between the urban forest, climate adaptation and public health Hold a partner forum to grow partnerships and identify opportunities Engage at the Professor level with the University of Fraser Valley for research partnership opportunities Create an environmental education lead within the UF section which would conduct in-house and external education and outreach Develop a communications and engagement plan to guide urban forest education and stewardship efforts	Public perception of trees as nuisance or obstruction to views Lack of public or political support for tree bylaw Community and neighbourhood values for trees have not been assessed and may not be represented in urban forest management operations or approach

C. COMPARISON WITH OTHER MUNICIPALITIES

Broad statistics

Large-scale forest cover loss tracking[1] between 2000 and 2016 indicates that forest loss exceeded gain in 90% of BC municipalities, suggesting that forest cover decline is an issue affecting most jurisdictions. This data only detects stand-level change from a forest to non-forest state. It does not pick up losses and gains at the individual tree scale or on small lots, which is the more common type of forest cover change in developed neighbourhoods or fully developed municipalities (e.g., Victoria, Oak Bay, Vancouver and New Westminster).

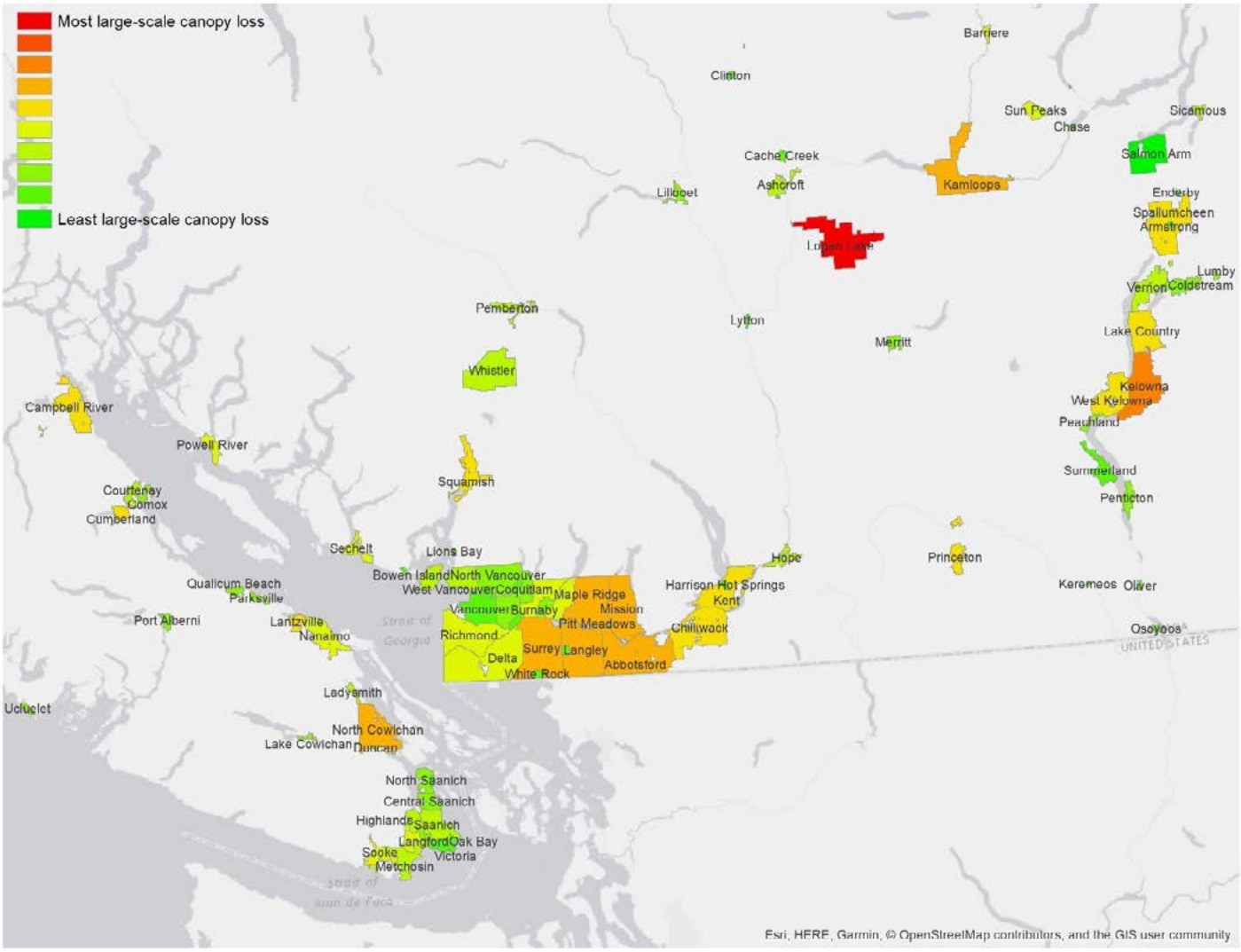


Figure 2. Large-scale forest cover losses in southwestern BC Municipalities.

[1]Hansen, M. C., P. V. Potapov, R. Moore, M. Hancher, S. A. Turubanova, A. Tyukavina, D. Thau, S. V. Stehman, S. J. Goetz, T. R. Loveland, A. Kommareddy, A. Egorov, L. Chini, C. O. Justice, and J. R. G. Townshend. 2013. "High-Resolution Global Maps of 21st-Century Forest Cover Change." Science 342 (15 November): 850–53. Data available on-line from:http://earthenginepartners.appspot.com/science-2013-global-forest.

COMPARISON WITH OTHER MUNICIPALITIES (CONTINUED)

Almost every BC municipality of Abbotsford's size or larger has a tree bylaw. Private tree bylaws typically apply to all lands and protect trees of a minimum size though some have a much more limited scope and apply depending on factors like parcel size, zoning, species, number of trees removed annually or locally defined tree protection areas.

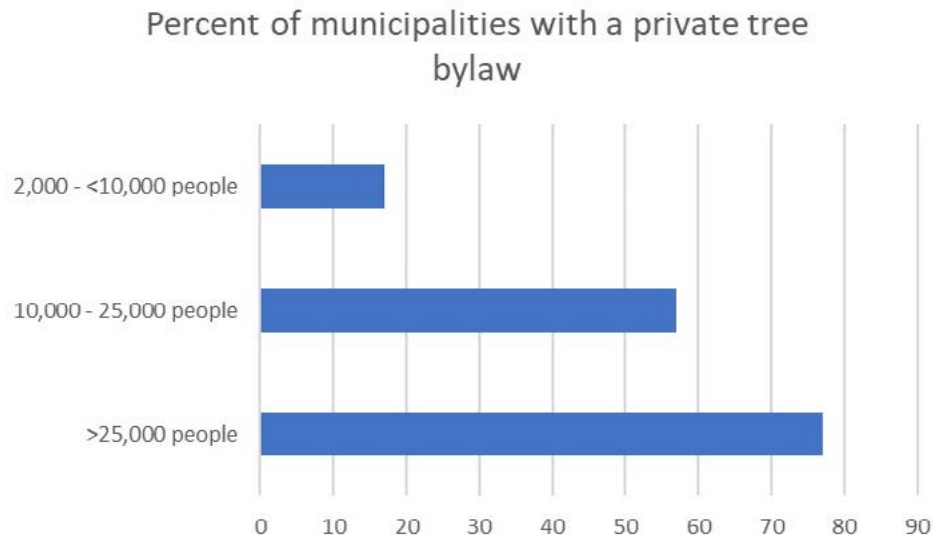


Figure 3. Percentage of municipalities with a private tree bylaw by population size.

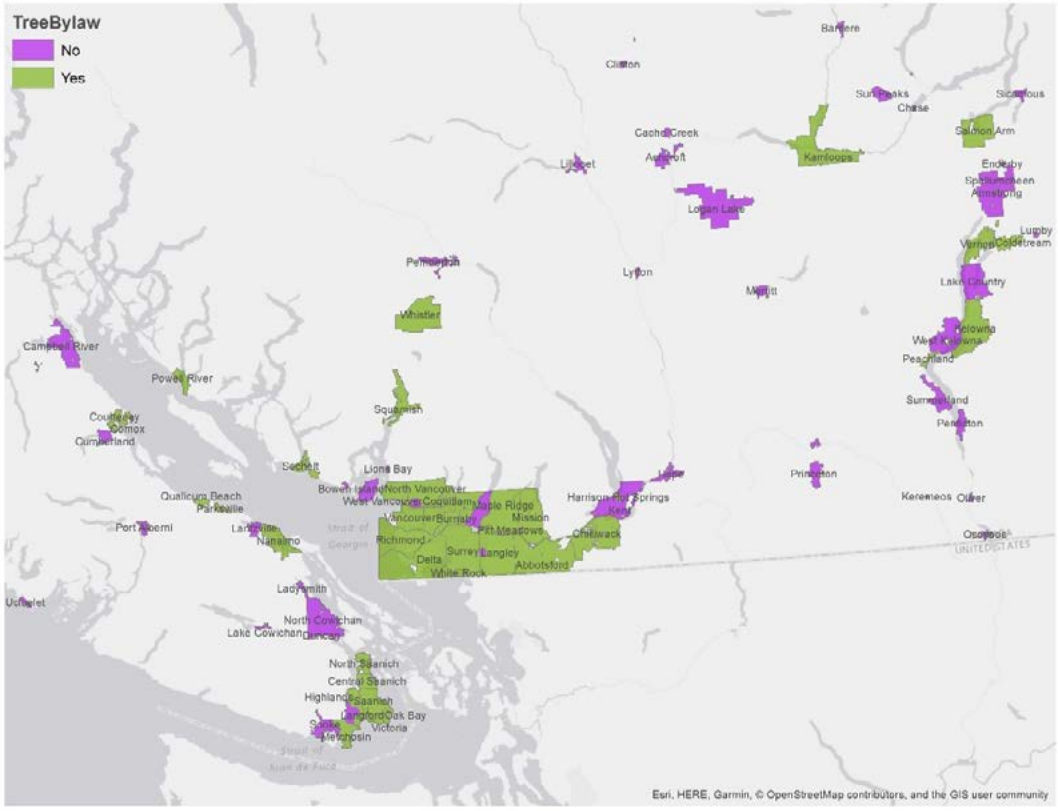


Figure 4. Municipalities in southwestern BC with private tree bylaws

COMPARISON WITH OTHER MUNICIPALITIES (CONT.)

Most municipalities in BC are showing a net loss of canopy cover from large-scale losses.

In a 2014 survey of Canadian municipalities, Tree Canada found:

Streets trees: the median number of street trees was 149 per 1,000 residents (the maximum was 1,800 trees per 1,000 people).

Abbotsford has an estimated 9,650 street trees, equivalent to 80 street trees per 1,000 residents.

Tree planting: The median number of trees planted was 5 per 1,000 residents (the maximum number was 144 per 1,000 residents). Most municipalities reported that their tree planting was increasing.

Abbotsford plants about 12 – 16 trees per year per 1,000 residents when natural area planting is included. If just considering street trees, about 4 tree per year per 1,000 residents are planted.

Pruning: Half of the municipal respondents had a reactive pruning program and half either had a proactive block pruning program or were planning to have one within 3 years.

Abbotsford has a reactive pruning program.

Contract work: The proportion of tree planting and pruning work that was contracted out versus done in-house was highly variable among municipal respondents.

Abbotsford predominantly uses contractors to plant and prune.

GIS inventory: Approximately 30% of municipal respondents had a GIS-based inventory, 45% had a partial but non-spatial inventory or were planning to have one in the next 3 years and 25% did not have an inventory and did not anticipate getting one.

Abbotsford has a GIS-based inventory.

Canopy cover assessment: Approximately 35% of respondents had some form of canopy cover assessment for the municipality and 65% had none.

Abbotsford has a canopy cover assessment

Budgets: The clear majority (96%) of respondents reported that their budgets had 'held their own' or increased in the past 3 years.

Urban forest management plans: Two thirds of respondents had some form of urban forest management plan and one third had no plan.

Abbotsford is developing its urban forest strategy.

Tree protection bylaw: Approximately 70% of municipal respondents indicated that they had a bylaw to protect City trees or were expecting one in the next 3 years. Approximately 50% had a private tree bylaw or were expecting one in the next 3 years.

Abbotsford has a private tree bylaw.

Community engagement: The most common engagement events were community tree planting events or general outreach and communications.

Abbotsford does community tree planting and outreach.

Challenges for urban forest management: The greatest pressures on the urban forest were identified as urban development, lack of funding and lack of planning.

Research priorities: Applied research needs were focused on improving urban soil conditions, improving pest and disease resilience and identifying urban tree species adapted to future climate. Social science research needs were focused on exploring community perspectives, exploring multi-purpose greenspaces, and analyzing and advocating for public health benefits of trees.

Comparison of municipalities of a similar size

The municipalities below have relatively similar land base and population to Abbotsford. The level of urban forest planning, management and protection varies among the municipalities. The pattern of private tree bylaws is consistent with BC's pattern of increasing urban forest regulation with population.

	ABBOTSFORD	DELTA	SURREY	LANGLEY (TOWNSHIP)	RICHMOND
Population approximate	140,000	100,000	517,900	126,000	223,000
Land area (km^2)	375	180	326	316	129
Population density/km^2	377	556	1,589	399	1,534
2014 Metro Canopy cover percent within Urban Containment Boundary (UCB)[a]	Not in Metro	20%	32%	29%	11%
Canopy cover percent (as reported in their UFS or Canopy Assessment)[b]	25% 2017 (within UCB)	N/A	28% 2013 (excluding ALR)	?	12% 2017 (20% on public land)
Canopy trend	Decline	Decline	Decline	Decline	Decline
			PLAN		
Urban forest strategy or plan	✓	×	City Tree Strategy	×	Working towards a City Tree Strategy
GIS canopy cover inventory	✓	×	✓	Working toward	×
Canopy cover target	Working toward	×	30% (excluding the ALR)	Working toward	30% on public land
Trees in asset management system	×	(expect not)	?	×	Working toward
			MANAGE		
GIS tree inventory	✓	(expect not)	✓	✓	✓
Number of inventoried City trees	11,019 (street and landscaped park trees)	?	101,504 (street and landscaped park trees)	26,964 (street and landscaped park trees)	56,500 (street and landscaped park trees)
Tree risk management policy/program	Natural areas only	×	Inventoried trees only	×	In development

	ABBOTSFORD	DELTA	SURREY	TOWNSHIP OF LANGLEY	RICHMOND	MAPLE RIDGE
Size of protected trees	20cm	20cm	30cm ESA Nesting Species	Greenfields: >20cm Development applications: >30cm	20cm	Density target of 40 trees (>20cm) per hectare, with more credits per tree for larger trees retained
Securities on replacement trees	$300 per replacement tree	$500 per replacement tree Cost of planting + maintenance	$300 or $600 per replacement tree (size dependent) Development/ subdivision retained trees: $10,000 per significant tree, $5,000 per specimen quality tree, $3,000 for other protected trees, up to $100,000 or $10,000 per lot from subdivision	125% of the value of tree protection, tree replacement and landscape work 20% of securities held for a year after planting		$600 per replacement tree up to $24,000 per hectare or $100,000 per application
Set number of removals allowed per year?	NO	Yes 1 tree per 24-month of on strata property one tree per 4,000m^2 per 24-month	No	Yes Greenfields: up to 2 trees per year on lots <0.8 ha and up to 4 trees on lots ≥0.8 ha	1 tree per year: requires a permit but no fee	As long as still achieves 40 trees/ ha target and not removing trees in Conservation Areas or trees >70cm
Replacement requirement	<20cm: no requirements 20-30cm: 2 trees >30cm: 3 trees	2:1	2:1	Development applications: # of gross developable acres times thirty minus three times the # of retained significant trees	Single lot single-family: 1:1 Others: 1:1 or more as approved by Director	Density target to be achieved/retained: 40 trees per hectare within the developable area of the parcel

	ABBOTSFORD	DELTA	SURREY	TOWNSHIP OF LANGLEY	RICHMOND	MAPLE RIDGE
Replacement planting requirements (soil volume)	No	Minimum 2.5m distance between trees	Spacing from buildings, foundations and adjacent lots	Street tree planting policy only	No ("sound horticultural and arboricultural practices to the satisfaction of the Director")	Spacing from building foundation and lot lines
Agricultural Land Reserve	Excluded from Bylaw	Excluded from Bylaw	Exemption for farming uses only (requires a sworn declaration)	Excluded from Bylaw	Exemption for farming uses	Exemption for farming uses (requires a farm plan to demonstrate the tree interferes with best of land for agricultural purposes)
Detailed reporting standards[c]	No	No	Yes	Yes	Yes	Yes
Tree protection fencing inspections by the City?	Yes, by works inspectors	Removal of fencing needs to be approved by Director	Barrier needs to be approved by Staff	No		No (Certified Arborist required to approve ahead of work being approved)
Enforcement – are there securities taken on protected trees?	No	No	Securities taken for retained trees: $10,000 per significant tree $5,000 per specimen tree $3,000 per other protected tree	Development: Securities retained 100% of professional's estimated value tree protection, replacement + landscape work)	No – the City regularly sends inspectors on site to enforce tree protection	$600 per retained tree up to $24,000 per hectare or $100,000 per application

[a] Canopy cover within the Urban Containment Boundary by municipality was estimated by Metro Vancouver using 2014 and cover data. The resolution of mapping for the analysis was relatively coarse, and many municipalities have pursued canopy assessments or Urban Forest Strategies to better understand their tree canopy since 2014.

[b] Numbers are reported when the municipality has commissioned its own canopy assessment or Urban Forest Strategy. The year and spatial extent of canopy assessments vary; however, these numbers are expected to be more accurate than the Metro Vancouver study due to the methods used.

[c] Detailed reporting standards refer to specific requirements for the report content, such as specifications on what to include in the plans (e.g. requiring surveyed location of tree) or other content and structure requirements.

D. PROPOSED GOALS AND INDICATORS

This section summarizes the review of Abbotsford's current urban forest management program according to a set of urban forest indicators adapted from an urban forest sustainability model first proposed in 1997, updated in 2001, and recently refined by the US Forest Service and Davey Institute in 2016 . The goals and indicators have been modified to suit Abbotsford's local context and the specific policy tools available in British Columbia.

The table below includes twenty-nine criteria and each one is assessed for Abbotsford's context. The summary report card included at the front of this report was modeled on Kitchener's recent urban forest strategy work .

The broad urban forest management goals proposed are:

1. Planning: Plan for a connected green network of trees and natural assets that deliver ecosystem services to the community.
2. Planting: Grow the urban forest sustainably so that the tree canopy will provide a consistent supply of ecosystem services throughout the community.
3. Management: Manage public trees so that they are healthy and safe throughout their useful life expectancy.
4. Protection: Protect trees strategically on public and private land to anchor a connected green network and to maintain a consistent supply of ecosystem services long-term.
5. Engagement: Partner broadly to foster urban forest stewardship, increase knowledge and build capacity to implement urban forest management goals.

We have assessed the indicators for urban forestry performance under each of these five goals. The resulting report card:

- Sets a baseline position of where we are today
- Identifies the key components of a sustainable urban forest
- Defines the optimal state that Abbotsford is striving to achieve
- Guides the actions that will be included in the plan to reach these goals.

The overall assigned score for Abbotsford's urban forestry program in 2019 achieves "fair" to "good" ratings. Abbotsford's Urban Forest Strategy will aim to shift the program towards an overall "good" and eventually "optimal" rating.

2019 URBAN FOREST REPORT CARD

Legend

- Poor
- Fair
- Good
- Optimal

Target	Rating
PLAN	
Awareness of the urban forest as a community resource	Fair
Green infrastructure asset valuation	Fair
Clear and defensible urban forest canopy assessment and goal	Fair
Municipal-wide biodiversity or green network strategy	Fair
Interdepartmental and interagency cooperation on urban forest strategy implementation	Good
Municipal urban forestry program capacity	Fair
Urban forest funding to implement the strategy	Fair
GROW	
City tree planting program design, planning and implementation	Good
Development requirements to plant trees on private land	Good
Streetscape and servicing specifications and standards for planting trees	Fair
Equity in planting program delivery	Poor
Forest restoration and native species planting	Good
Selection and procurement of stock in cooperation with nursery industry	Fair
Climate adaptation/mitigation integration with tree planting projects	Fair
MANAGE	
Tree inventory	Good
Knowledge of trees on private property	Good
Natural areas inventory	Good
Maintenance of publicly-owned, intensively managed trees	Fair
Extreme weather planning	Good
Tree risk management	Fair
Pest and disease management	Fair
Waste biomass utilization	Fair
PROTECT	
Regulating the protection and replacement of private and City trees	Good
Regulating conservation of sensitive ecosystems, soils or permeability	Good
Interdepartmental cooperation on urban forest strategy implementation	Good
Internal protocols guide City tree or sensitive ecosystem protection	Good
Standards of tree protection and tree care during development	Fair
PARTNER	
Citizen involvement and neighbourhood action	Fair
Involvement of large private and institutional landholders	Fair
Urban forest research	Fair
Regional collaboration	Fair

Assessment Criteria		Indicators for Urban Forestry Performance			
	OBJECTIVE	Poor	Fair	Good	Optimal
PLANNING					
Awareness of the urban forest as a community resource	The urban forest is recognized as vital to the community's environmental, social, and economic well-being.	General ambivalence or negative attitudes about trees, which are perceived as neutral at best or as the source of problems. Actions harmful to trees may be taken deliberately.	**Trees are widely acknowledged as providing environmental, social, and economic services but are not widely integrated in corporate strategies and policies.**	The urban forest widely acknowledged as providing environmental, social, and economic services and urban forest objectives are integrated into other corporate strategies and policies.	Stakeholders understand, appreciate, and advocate for the urban forest as a community resource. There is widespread public and political support and advocacy for trees, resulting in strong policies and plans that advance the viability and sustainability of the urban forest.
Green infrastructure asset valuation	Integrate green infrastructure asset value into the municipal asset management system to support valuing and accounting for natural assets in the City's financial planning to build a climate resilient infrastructure.	No recognition of value of natural forms and functions within local government.	**Local government recognizes the value of natural forms and functions but does not yet have adequate information to value green infrastructure as a municipal asset.**	Local government recognizes the value of natural forms and functions and has inventoried green infrastructure within an asset management system.	Local government recognizes and accounts for the value of natural forms and functions within an asset management system, and invests in green infrastructure protection and enhancement.
Clear and defensible urban forest canopy assessment and goal	Urban forest policy and practice is driven by comprehensive goals municipality-wide and at the neighbourhood or land use scale informed by accurate, high-resolution assessments of existing and potential canopy cover.	No assessment or goals.	**Low-resolution and/or point-based sampling of canopy cover using aerial photographs or satellite imagery – and limited or no goal-setting.**	Complete, detailed, and spatially explicit, high-resolution Urban Tree Canopy (UTC) assessment based on enhanced data (such as LiDAR) – accompanied by comprehensive set of goals by land use and other parameters	The City has a complete, detailed, and spatially explicit high-resolution Urban Tree Canopy (UTC) assessment accompanied by a comprehensive set of goals municipal-wide and by neighbourhood or land use.
Municipal-wide biodiversity or green network strategy	Acquire and restore publicly-owned natural areas in pursuit of meeting municipal-wide biodiversity and connectivity goals.	No or very limited planning and stewardship of natural areas.	**Area specific management plans focused on management, restoration and protection of natural areas.**	Municipal-wide urban forest, parks or natural areas strategy guiding management, restoration and protection of the existing natural areas network.	Biodiversity strategy or equivalent in effect to manage, restore and existing and acquire future natural areas network throughout the municipality.
Interdepartmental and interagency cooperation on urban forest strategy implementation	Ensure all relevant municipal departments and agencies cooperate to advance goals related to urban forest issues and opportunities.	Conflicting goals among departments and/or agencies.	Common goals but limited cooperation among departments and/or agencies.	**Municipal departments, affected agencies and urban forest managers recognize potential conflicts and reach out to each other on an ad hoc basis.**	Formal interdepartmental working agreements or protocols on all municipal projects.

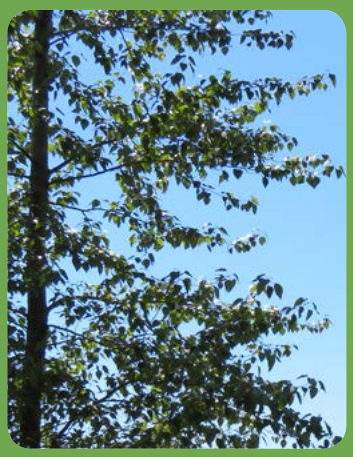
Assessment Criteria		Indicators for Urban Forestry Performance			
	OBJECTIVE	Poor	Fair	Good	Optimal
Municipal urban forestry program capacity	Maintain sufficient well-trained personnel and equipment – whether in-house or through contracted or volunteer services – to implement municipality-wide urban forest management plan	Team severely limited by lack of personnel and/or access to adequate equipment. Unable to perform adequate maintenance, let alone implement new goals.	**Team limited by lack of staff and/or access to adequate equipment to implement new goals.**	Team able to implement many of the goals and objectives of the urban forest management plan.	Team able to implement all of the goals and objectives of the urban forest management plan.
Urban forest funding to implement the strategy	Maintain adequate funding to implement the urban forest strategy.	Little or no dedicated funding.	**Dedicated funding but insufficient to implement the urban forest strategy.**	Dedicated funding sufficient to partially implement the urban forest strategy.	Sustained funding to fully implement the urban forest strategy.
PLANTING					
City tree planting program design, planning and implementation	Comprehensive and effective tree selection, planting and establishment program that is driven by canopy cover goals and other considerations according to the UFS.	Tree replacement and establishment is ad hoc.	Some tree planting and replacement occurs, but with limited overall municipality-wide planning and post planting care.	Tree replacement and establishment is directed by needs derived from an opportunities assessment and species selection is guided by site conditions, tree health and climate adaptation considerations.	Tree planting and replacement is guided by strategic priorities and is planned out to make progress towards targets set for canopy cover, diversity, tree health and climate adaptation within the timeframe of the strategy.
Development requirements to plant trees on private land	Ensure that new trees are required in landscaping for new development or, where space is lacking, there is an equivalent contribution to tree planting in the public realm.	Landscaping requirements do not address trees on private land.	Developments are generally required to provide replacement but the outcomes are often in conflict with public trees and other infrastructure due to space limitations and not connected to meeting canopy cover targets.	**Developments are required to provide replacement trees or, where space is not adequate according to soil volume available, provide cash-in-lieu for equivalent tree planting on public land. The requirement is not connected to meeting canopy cover targets.**	Developments are required to provide a minimum density of trees per unit measure or, where space is not adequate according to soil volume available, provide cash-in-lieu for equivalent tree planting on public land. Planting density is determined based on meeting a municipal-wide canopy cover target.
Streetscape and servicing specifications and standards for planting trees	Ensure all publicly owned trees are planted into conditions that meet requirements for survival and maximize current and future tree benefits.	No or very few specifications and standards for growing sites.	**Specifications and standards for growing sites exist but are inadequate to meet urban forest goals.**	Specifications and standards exist and are adequate to meet urban forest goals but are not always achieved.	All trees planted are in sites with adequate soil quality and quantity, and with sufficient growing space to achieve their genetic potential and life expectancy, and thus provide maximum ecosystem services.
Equity in planting program delivery	Ensure that the benefits of urban forests are made available to all, especially to those in greatest need of tree benefits.	**Tree planting and outreach are not determined equitably by canopy cover or need for benefits.**	Planting and outreach includes attention to low canopy neighborhoods or areas.	Planting and outreach targets neighborhoods with low canopy and a high need for tree benefits.	Equitable planting and outreach at the neighbourhood level are guided by strong citizen engagement in identified low-canopy/high-need areas.

Assessment Criteria		Indicators for Urban Forestry Performance			
	OBJECTIVE	Poor	Fair	Good	Optimal
Forest restoration and native species planting	Encourage the appreciation of native vegetation by the community and ensure native species are widely planted to enhance native biodiversity and connectivity	Voluntary use of native species on publicly and privately-owned lands.	The use of native species is encouraged on a site-appropriate basis in public and private land development projects.	**Policies require the use of native species and management of invasive species on a site-appropriate basis in public and private land development projects but are not integrated across all policy or guided by a connectivity analysis.**	Policies require the use of native species and management of invasive species on a site-appropriate basis in public and private land development projects guided by a municipal-wide biodiversity/green strategy or equivalent.
Selection and procurement of stock in cooperation with nursery industry	Diversity targets and climate adaptation/mitigation objectives guide tree species selection and nurseries proactively grow stock based on municipal requirements.	Species selection is not guided by diversity targets or climate adaptation/mitigation objectives.	**Species selection is guided by diversity and climate adaptation/ mitigation but required stock is rarely available from nurseries and acceptable substitutes reduce diversity.**	Species selection is guided by targets for diversity and climate adaptation/ mitigation and required stock or acceptable substitutes are usually available from nurseries.	Species selection is guided by targets for diversity and climate adaptation/mitigation and required stock is secured ahead of the planned planting year from contract or in-house nurseries.
Climate adaptation/mitigation integration with tree planting projects and landscaping	Incorporate climate adaptation and mitigation objectives into public and private tree planting projects to improve urban tree health and resilience, carbon sequestration, stormwater management and cooling.	Climate adaptation/mitigation not considered in planting projects or intentionally designed into vegetated landscapes	**Climate adaptation/mitigation occasionally incorporated into City or private land planting projects and landscape designs.**	Climate adaptation/mitigation guidelines in place for planting projects and landscape designs on public and private land.	Climate adaptation/mitigation targets are defined for the urban forest and policy requires planting project and landscape designs on public and private land to contribute to meeting targets.
MANAGEMENT					
Tree inventory	A current and comprehensive inventory of intensively managed trees to guide management, including data such as age distribution, species mix, tree condition and risk assessment.	No inventory.	Partial inventory of publicly-owned trees in GIS.	**Complete inventory of street trees and intensively managed park trees in GIS but inconsistently updated.**	The City tree inventory is complete, is GIS-based, supported by mapping and is continuously updated to record growth, work history and tree condition.
Knowledge of trees on private property	Understand the extent, location and general condition of privately-owned trees.	No information about privately owned trees.	Aerial, point-based or low-resolution assessment of tree canopy on private property, capturing broad extent.	**Detailed Urban Tree Canopy analysis of the urban forest on private land, including extent and location, integrated into a municipality-wide GIS system**	The City has a point inventory of private trees, as well as detailed Urban Tree Canopy analysis of the entire urban forest integrated into a municipality-wide GIS system.
Natural areas inventory	A current and comprehensive inventory of sensitive and modified natural ecosystems and their quality mapped to Provincial standards to provide standardized ecological information to support decision-making.	No inventory of natural areas.	Natural areas inventoried in GIS but not recently updated and attribute information not to a standard that can support decision-making.	**Natural areas inventoried in GIS and with standard and complete attribute information to support decision-making but not updated in the last 5 years.**	Natural areas inventoried in GIS and with standard and complete attribute information to support decision-making and updated in the last 5 years.

Assessment Criteria		Indicators for Urban Forestry Performance			
	OBJECTIVE	Poor	Fair	Good	Optimal
Maintenance of publicly-owned, intensively managed trees	Maintain all publicly owned intensively managed trees for optimal health and condition in order to extend longevity and maximize current and future benefits	Publicly-owned trees are maintained on a request/reactive basis.	**Publicly-owned trees are maintained on a request/reactive basis. Limited systematic (block) pruning and/or immature trees are structurally pruned.**	All publicly-owned trees are systematically maintained on a cycle determined by workload and resource limitations. All immature trees are structurally pruned.	All mature publicly-owned trees are maintained on an optimal pruning cycle. All immature trees are structurally pruned.
Extreme weather response planning	A response plan guides call-out procedures, resources available and the clean-up response.	Response plan not documented or not current.	Response plan is documented and includes call-out procedures, roles and responsibilities but lacks details to prioritize hazards and clean-up.	**Parks/Urban Forestry response plan includes call-out procedure, roles and responsibilities, and criteria for prioritizing tree hazards and removing debris is in place.**	A City-wide response plan is in place and a response drill occurs annually in advance of the storm season.
Tree risk management	Comprehensive tree risk management program fully implemented, according to ANSI A300 (Part 9) "Tree Risk Assessment" standards, and supporting industry best management practices.	No coordinated tree risk assessment or risk management program. Response is on a reactive basis only.	**Some areas within the city are prioritized for risk assessment and management. Little annual budget is available to develop a more proactive inspection program.**	Priority areas of the City are inspected on a regular schedule and operational standards and budgets are in place for responding to and managing tree risks within an appropriate timeframe.	A comprehensive risk management program is in place, with all public lands inspected on defined schedules and operational standards and budgets in place for responding to and managing tree risks within an appropriate timeframe.
Pest and Disease Management	An Integrated Pest Management (IMP) plan guides treatment responses to existing and potential pest threats to the urban forest.	No integrated pest management plan and no pest management.	**No integrated pest management plan and reactive pest management.**	No integrated pest management plan but IPM policy is in place and IPM is practiced.	An integrated pest management plan is in place and implemented.
Waste biomass utilization	A closed system diverts all urban wood and green waste through reuse and recycling.	Wood waste from the urban forest is not utilized.	**Wood waste from the urban forest is utilized as mulch or biofuel.**	Wood waste from the urban forest is utilized as mulch or biofuel and sometimes high value pieces are milled and stored for later use or sold on to local value-added industries.	Low value wood waste from the urban forest is utilized as mulch or biofuel and all high value pieces are milled and stored for later use or sold on to local value-added industries.

Assessment Criteria		Indicators for Urban Forestry Performance			
	OBJECTIVE	Poor	Fair	Good	Optimal
PROTECTION					
Policy or regulations regulating the protection and replacement of private and City trees	Secure the benefits derived from trees on public and private land by enforcement of municipality-wide policies and practices including tree protection.	No or very limited tree protection policy.	Policies in place to protect public trees and employ industry best management practice.	**Policies in place to protect public and private trees with enforcement but lack integration with other municipal policy to enable effective tree retention.**	Urban forest strategy and integrated municipal-wide policies that guide the protection of trees on public and private land, and ensure they are consistently applied.
Policy or regulations for conservation of sensitive ecosystems, soils or permeability on private property through development	Secure the benefits derived from environmentally sensitive areas by enforcement of municipality-wide policies in pursuit of meeting biodiversity and connectivity goals.	No or very limited natural areas protection policy.	Policies in place to protect privately-owned natural areas without enforcement.	**Development Permit Areas in place to protect privately-owned natural areas with enforcement but lack integration with other municipal policy to enable effective tree retention.**	Biodiversity strategy or equivalent and integrated municipal-wide policies that guide privately-owned natural area protection and ensure they are consistently applied.
Interdepartmental cooperation on urban forest strategy implementation	Ensure all relevant municipal departments and agencies cooperate to advance goals related to urban forest issues and opportunities.	Conflicting goals among departments and/or agencies.	Common goals but limited cooperation among departments and/or agencies.	**Municipal departments, affected agencies and urban forest managers recognize potential conflicts and reach out to each other regularly.**	Formal interdepartmental working agreements on all municipal projects.
Internal protocols guide City tree or sensitive ecosystem protection	Ensure all relevant municipal departments follow consistent tree or ecosystem protection protocols for capital design and construction activities.	No protocols guiding City tree or ecosystem protection for capital design and construction activities.	Informal and inconsistent processes followed for City tree or ecosystem protection for capital design and construction activities.	**Established protocols for City tree or ecosystem protection for capital design and construction activities but outcomes are inconsistent or sometimes unachievable.**	Established protocols for City tree or ecosystem protection for capital design and construction activities are consistently followed and outcomes are successful.
Standards of tree protection and tree care observed during development or by local arborists and tree care companies	Consulting arborists and tree care companies understand city-wide urban forest goals and objectives and adhere to high professional standards.	Limited understanding or support for tree protection requirements.	**General understanding or support for tree protection requirements but large variation in the quality of information and services provided.**	General understanding or support for tree protection requirements and generally consistent quality of information and services provided.	Advocacy for tree protection requirements, engagement with City staff on improving processes and standards, and generally consistent quality of information and services. provided.to high professional standards.
Cooperation with utilities on protection (and pruning) of City trees	All 3rd party utilities employ best management practices and cooperate with the City to advance goals and objectives related to urban forest issues and opportunities.	Utilities take actions impacting urban forest with no municipal coordination or consideration of the urban forest resource.	**Utilities inconsistently employ best management practices, rarely recognizing potential municipal conflicts or reaching out to urban forest managers and vice versa.**	Utilities employ best management practices, recognize potential municipal conflicts, and reach out to urban forest managers on an ad hoc basis – and vice versa.	Utilities employ best management practices, recognize potential municipal conflicts, and consistently reach out to urban forest managers and vice versa.

Assessment Criteria		Indicators for Urban Forestry Performance			
	OBJECTIVE	Poor	Fair	Good	Optimal
PARTNER					
Citizen involvement and neighbourhood action	Citizens and groups participate and collaborate at the neighbourhood level with the municipality and/or its partnering NGOs in urban forest management activities to advance municipality-wide plans	Little or no citizen involvement or neighborhood action.	**Community groups are active and willing to partner in urban forest management but involvement and opportunities are ad hoc.**	Several active neighborhood groups engaged across the community, with actions coordinated or led by municipality and/or its partnering NGOs.	Proactive outreach and coordination efforts by the City and NGO partners result in widespread citizen involvement and collaboration among active neighbourhood groups engaged in urban forest management
Involvement of large private land and institutional land holders (e.g., schools)	Large private landholders to embrace and advance city-wide urban forest goals and objectives by implementing specific resource management plans.	Large private landholders are generally uninformed about urban forest issues and opportunities.	**Landholders manage their tree resource but are not engaged in meeting municipality-wide urban forest goals.**	Landholders develop comprehensive tree management plans (including funding strategies) that advance municipality-wide urban forest goals.	As described in "Good" rating, plus active community engagement and access to the property's forest resource.
Urban forest research	Research is active and ongoing towards improving our understanding of the urban forest resource, the benefits it produces, and the impacts of planning, policy, design and management initiatives.	No urban forest research.	**Isolated academic research occurs in the municipality's urban forest.**	The municipality supports and has input on academic research occurring in its urban forest and knowledge transfer occurs.	The urban forest is a living laboratory - in collaboration with public, private, NGO and academic institutions - integrating research and innovation into managing urban forest health, distribution and abundance.
Regional collaboration	There is cooperation and interaction on urban forest plans among neighbouring municipalities within the region, and/or within regional agencies.	Municipalities have no interaction with each other or the broader region for planning or coordination on urban forestry.	**Some neighboring municipalities and regional agencies share similar policies and plans related to trees and urban forest.**	Some urban forest planning and cooperation across municipalities and regional agencies.	Widespread regional cooperation resulting in development and implementation of regional urban forest strategy. implementation of a regional Urban Forest Strategy.



City of Abbotsford

Parks, Recreation & Culture

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