



City of
Campbell
River

Urban Forest Management Plan

City of Campbell River UFMP Update



OBJECTIVES

- Define Urban Forest
- Benefits of an Urban Forest
- Define Urban Forest Management Plan (UFMP)
- Campbell River UFMP Project Origins
- Review City Land Base vs Urban Containment Area
- Phase 1 – Significant Findings
- Phase 2 – Moving Forward

Hug a tree – it's saving you money, [from] an economic perspective, calculating the value each tree provides by saving energy, keeping rain and snow off the streets and absorbing pollution. According to a report from TD Economics released [last] Monday.

Claire Brownell, June 9, 2014 – Financial Post



WHAT IS AN URBAN FOREST?

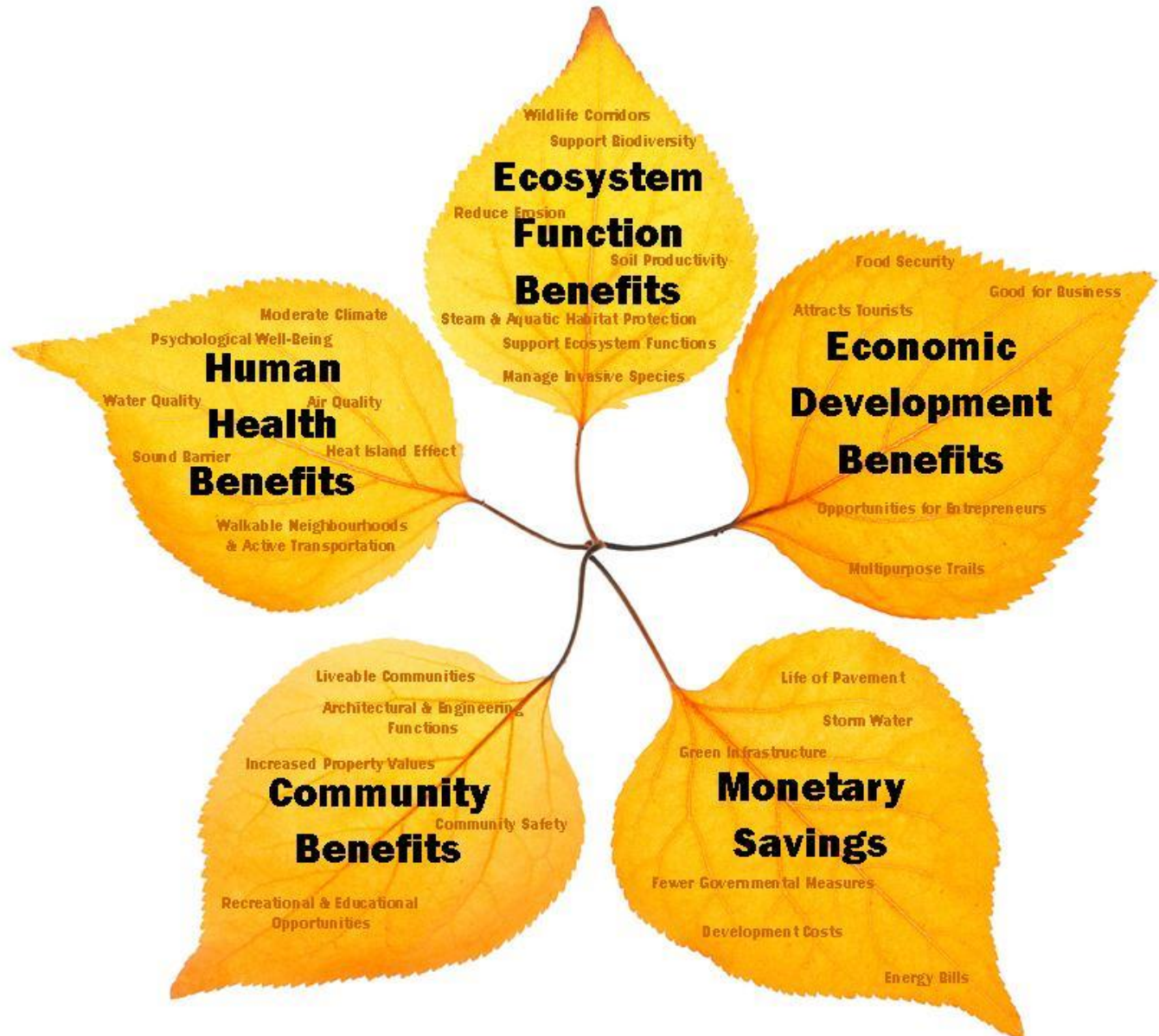
Campbell River's urban forest includes all the trees, soil and vegetation within city boundaries - whether planted or naturally occurring:

- Single trees, trees in small groves and trees in larger forests
- Native and non-native trees
- Trees on both rural and urban lands
- Trees in both natural and developed parks
- Trees on private lands - residential, commercial & institutional
- Habitat (wildlife) trees
- Riparian area trees and forest

One way to measure the extent of the urban forest is through quantifying the urban tree canopy – envision the layer of leaves, branches and tree stems when viewed from above.

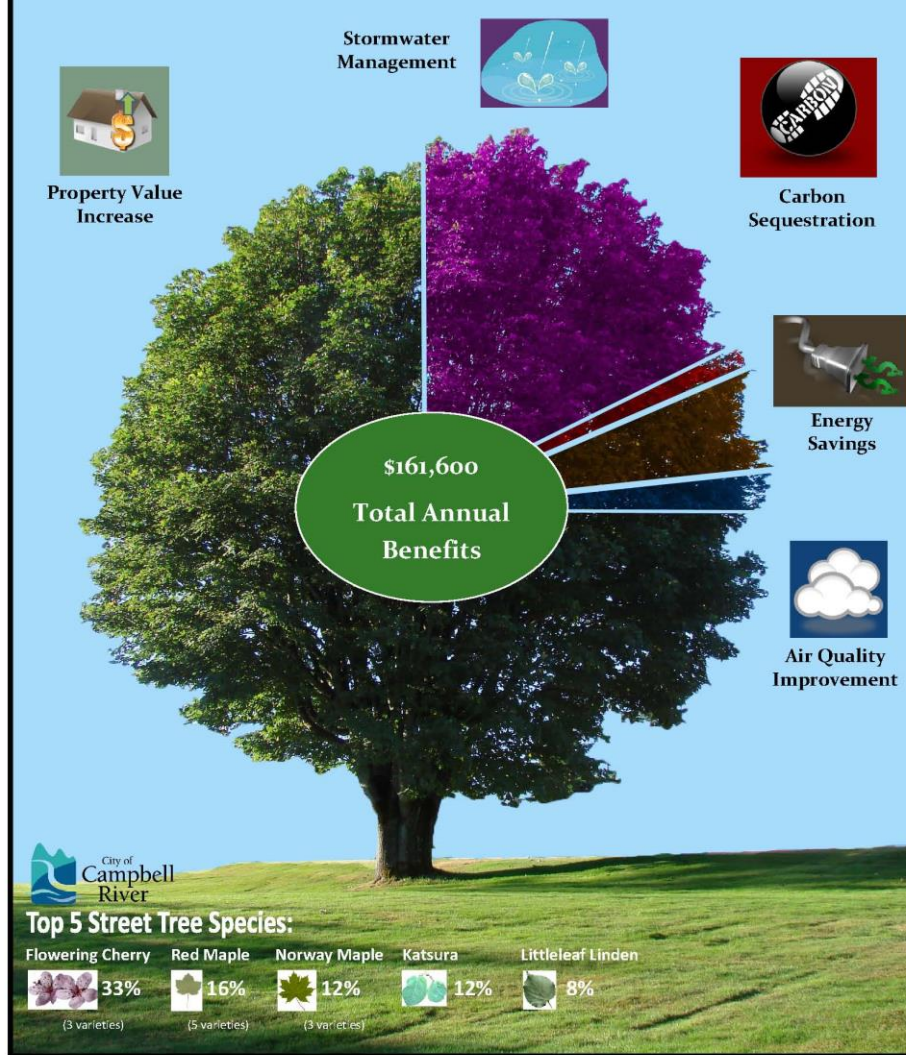


BENEFITS OF URBAN FORESTS



City of Campbell River Street Tree Benefits

A fraction of our urban forest



OUR STREET TREES PAY US BACK

Annual value of street tree benefits provided by each street tree: **\$67**

Total annual value of services for entire street tree population: **\$187,600**

Annual average cost per tree (planting plus maintenance): **\$17**

Annual net benefit per street tree: **\$50**
(300% return on investment)

Annual net benefit from entire street tree population: **\$161,600**

Replacement value of the street trees **\$2,240,400**



Top 5 Street Tree Species:

- Flowering Cherry (3 varieties) 33%
- Red Maple (5 varieties) 16%
- Norway Maple (3 varieties) 12%
- Katsura 12%
- Littleleaf Linden 8%

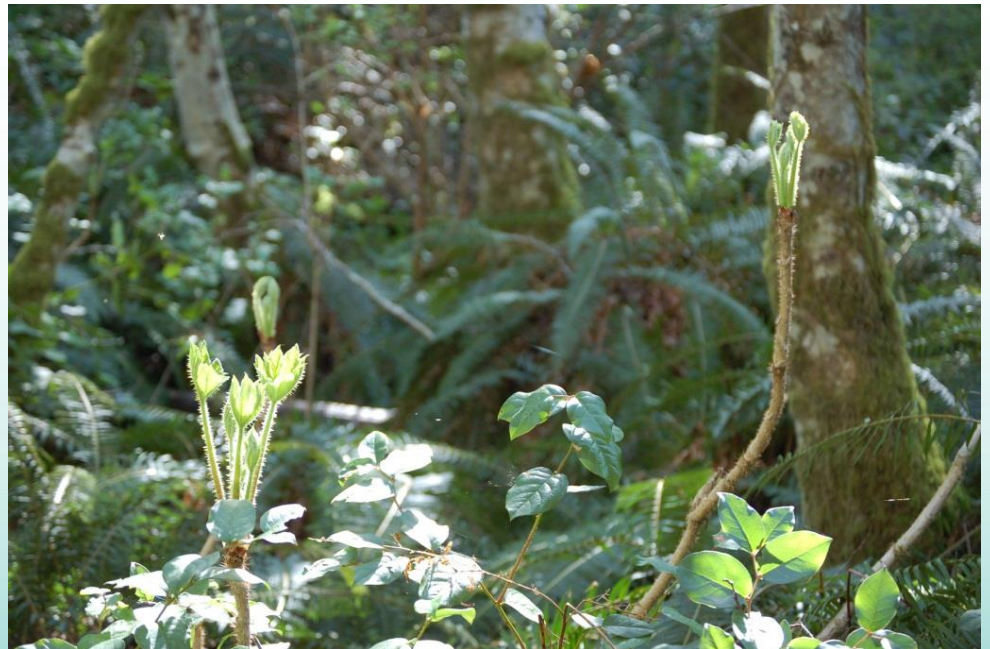
URBAN FOREST MANAGEMENT PLAN

What is it?

A formalized strategy for managing and enhancing a diverse urban forest so that it will continue to serve our community for generations to come.

Why is it important?

Without a plan, development will result in more tree loss than tree gains over time. In addition to urban development, changes in the overall climate will impact the function and composition of the urban forest. Having a plan in place is vital to Campbell River's ecological future.



PROJECT ORIGINS

- **Community Advisory & the Environmental Advisory Commissions**

EAC Meeting on September 18, 2008 - Richard Hamilton – Greenways Land Trust (Development Advisory Commission member) - “There is an overwhelming case to be made for maintaining tree cover within the City. Some advantages include: stimulation of downtown business, increased property values, cleaner air, provision of wildlife habitat, stormwater management & climate considerations”

- **Sustainable Official Community Plan**

Desired Outcomes for Our Parks & Natural Environment By 2020

- *Parks, open spaces and street environments are improved to include additional soil, tree and vegetation coverage*
- *The Urban Forest Management Plan is completed*

- **Strategic Parks Plan**

A growing concern about the environment and conservation will result in increased emphasis on passive parks and natural areas, and nature-based recreation. At the same time, parks and streets are under pressure to increase their role as a part of ‘green infrastructure’ to address several environmental issues, including: Stormwater Management, Riparian Area Protection & Climate Change Adaptation.

- **Integrated Community Sustainability Plan**

Parks and natural spaces are networked so as to support both active transportation and movement of water and wildlife. Streams, the estuary, wetlands and marine areas are protected, restored and celebrated as community assets.

- *Climate & Energy - Natural vegetation and soils sequester CO2 emissions, store carbon and help to moderate local temperature and climate*
- *Ecosystem Integrity - The combination of plant and animal biodiversity that make up ecosystems provide the life support systems of the Earth. Connected natural areas provide habitat and corridors for wildlife.*

- **Integrated Stormwater Management Implementation Plan**

- *Develop and adopt a tree retention bylaw*
- *Environmental Protection and Enhancement, Policy and Regulation and Public Education and Outreach.....*

- **Marine Foreshore Habitat Assessment & Restoration Plan**

- *Backshore vegetation performs several critical roles in maintaining natural system function along the Campbell River shoreline: shade and microclimate, food production, shoreline stabilization, pollutant removal, raptor nest and perch sites and wildlife migration.*

RESEARCH METHODS FOR PHASE 1

The Phase 1: Urban Forest Inventory was completed by Registered Professional Forester and Certified Arborist and Tree Risk Assessor – Irv Penner and his team.

They used i-Tree software to analyze the information collected from the various ground plots. i-Tree software is used by communities of all sizes to strengthen their urban forest management and advocacy efforts by quantifying the structure of community trees and the environmental services that trees provide. Without it – it would be very difficult to determine a variety of ecosystem benefits, such as carbon sequestration and stormwater attenuation. It also makes it possible to carry out a statistically valid sample inventory at a relatively low cost.

Worldwide, there are over 9,470 i-Tree users.



Irv Penner working on the inventory in Beaver Lodge Forest Lands

PHASE 1 – HIGHLIGHTS WITHIN THE UCA

- Campbell River's current canopy cover is 33% (national average for North American cities is 27%).
- Campbell River's urban forest contains an estimated 435,000 trees.
- On a per capita basis this figures represent 14 trees for each resident.
- From 2007 to 2012 there was a canopy loss of over 1% which is equivalent to approximately the loss of 5,000 trees a year.
- To increase canopy cover by 1% it would require planting 31ha which is about 24,900 trees.



CAMPBELL RIVER URBAN FOREST BENEFITS

Significant Findings from Phase 1



FEATURE	MEASURE
Carbon sequestered annually	2,940 tonnes within UCA 426 tonnes by street trees
Corporate GHG emissions	1,511 tonnes (2012)
Total carbon stored	100,000 tonnes within UCA 600 tonnes in street trees
Stormwater runoff reduction	1.6 billion litres within UCA 3,785 litres annually per tree
Real estate values	1-5% increase for trees in front yard landscaping 6-9% increase for neighbourhood tree cover
Energy savings	10-15% residential heating savings from wind reduction 30% saved on air conditioning costs from shade trees

PHASE 2

The Phase 1 - Urban Forest Inventory report has been completed. Moving on to Phase 2, the development of the Urban Forest Management Plan, will provide direction and financing strategies for:

1. **Urban Forest Stewardship**

Community outreach & public education

2. **Wildland Park & Natural Areas Management Strategy**

Formalized partnerships with Greenways Land Trust & other agencies in the management of environmentally sensitive areas

3. **Lifecycle Care of Park & Street Trees**

Incorporation of park and street trees into the City's asset management plans and development of a tree maintenance plan

4. **Regulatory Framework**

Development of tree replacement criteria and a tree protection bylaw

5. **Climate Adaptation**

Development of a carbon stewardship plan, creation of additional tree canopies etc.

