



# Tree Protection Policy

Council Workshop – Nov 22, 2021

Richard Boase, P.Geo. – Environmental Sustainability (Operations)

# Tree Protection Policy

## Workshop Agenda

- Opening remarks
- Presentation by staff
  - Tree Protection Bylaw Quick Review
  - Proposed Bylaw Changes
  - Urban Tree Canopy Program and Other Initiatives
  - Street Tree(s)
- Discussion
- Closing and Direction from Council

# Authority to Regulate Trees

- The *Community Charter* confers authority to regulate trees.
- Not without limitations
- Cannot prevent permitted uses or impact permitted density
- Unless
  - a) Council agrees to compensation for reduction in market value
  - b) Council grants by variance or otherwise a means of achieving the permitted use and density.

# Tree Protection Bylaw 7671

- Originally adopted in November 1993.
- Current version adopted by Council July 23, 2012 after a 5 year review process.
- A foundational policy tool that supports specific objectives of numerous Council adopted strategic plans;
  - Official Community Plan
  - Climate Change Adaptation Strategy
  - Community Energy and Emissions Plan

*“A bylaw to protect, preserve and conserve trees and their physical, societal, economic and environmental characteristics as associated with the forested character of the District of North Vancouver.”*



# Tree Protection Bylaw 7671

## Protected Trees

- Trees on sloping terrain, stream corridors and wetland/waterfront
- District Owned Trees
- Trees in Covenant Areas
- Large diameter, privately owned trees
- Replacement trees
- Listed tree species
- Wildlife trees
- Heritage trees

# Tree Protection Bylaw 7671

## Permits Required - Protected Tree(s)

- Greater than 10cm in diameter as measured at 1.3m above grade.
- On private and public property
- Application form online
- Arborist report for removal, pruning and hazard trees
- Replacement trees (staff directed no for hazard tree)
- Security 125% replanting cost

# Tree Protection Bylaw 7671

## Large Diameter Tree(s)

- At least 0.75m as measured at 1.3m above grade.
- Solely on private property and NOT a *protected* tree
- Arborist report only for hazard trees and pruning
- 20% canopy target for RS lands
- Replacement tree(s) (none, 3:1 or 1:1)
- Environmental Compensation fee (\$595 per/tree) in lieu of replacement tree(s)



# Large Diameter Trees

Area of trees removed 171sq m  
Area of tree remaining 0 sq m  
Area of Lot 771sq m



Property area  $> 420\text{m}^2$   
3:1 replacement

Property area  $< 420\text{m}^2$   
1:1 replacement

Tree to be removed  
Trees remaining  $\leq 20\%$   
**Tree replacement required**

Area of Trees removed 342sq m  
Area of tree remaining 215 sq m  
Area of Lot 963sq m



Tree to be removed  
Trees remaining  $\geq 20\%$   
**Tree replacement not required**



# Tree Protection Bylaw 7671

## Permit fees

- Prune or remove a protected tree \$82 / tree
- Prune or remove a large dia. Tree \$82 / tree
- Prune or remove up to 4 protected trees \$82 / tree
- Prune or remove 5 or more protected trees \$389
- Prune or remove 5 or more large dia. trees \$389
- Environmental Compensation fee \$595 / large dia. Tree (no replacement trees)

# Proposed Bylaw Changes

1. Create a new permit category and fee for large diameter tree removal
  - Consider a permit fee increase for the new category that applies to each large dia. tree removed
  - Do not cap the fee for removal of X or more large dia. trees removed
  - Higher permit fee, with no cap, may discourage removal of healthy large diameter tree(s)

# Proposed Bylaw Changes

2. Consider increasing the environmental compensation fee paid when no replanting takes place after large dia. tree removal
  - Higher compensation fee may discourage removal of healthy large diameter tree(s)
  - Continues to fund other urban tree canopy programs that replace trees on private property

# Proposed Bylaw Changes

3. Consider adding an additional form/type of environmental compensation for large dia. tree removal to replace lost ecosystem services
  - Rainwater interception and storage designed professionally (rain garden, infiltration, storage cistern etc.)
  - Native shrub landscape features to replace lost biodiversity
  - Constructed habitat features (nest boxes, wildlife trees etc)

# Proposed Bylaw Changes

4. Consider changing the security deposit formula for large dia. replacement trees
  - Currently security fee is set as \$595 per large dia. Tree removed
  - This fee structure results in default of security after tree removal takes place

# Urban Tree Canopy Program

A program that provides up to two free trees to DNV residents that choose to participate

- Launched in 2021
- 239 native trees delivered
- 146 different properties participated
- Included cedar, fir, dogwood, alder, pine, maple and willow species

# Urban Tree Canopy Program

"Thank you so much for your work on this! It's such a valuable project for our community."

"We are very excited about this initiative!"

"This is such a terrific project that the district is undertaking. I am happy to be a part of it."

[Urban Tree Canopy Project | District of North Vancouver \(dnv.org\)](#)





# Hazard Tree Replacement Program

- Climate and pests have impacted our forest health
- Dead or dying trees pose a significant future risk to the DNV
  - Increase in higher risk fuel type (+/- 2 years)\*
  - Increase in tree failure incidents (+/- 3 to 5 years)\*
  - Increased risk of landslide and debris flow events as root stability deteriorates (+/- 7 to 10 years)\*
- Private property owners face similar issues
- Ecosystem services are lost when these trees are removed
- Considerable staff resources are expended on permits for hazard tree removal with no fees or replanting required

# Hazard Tree Replacement Program

## PROPOSAL

- Consider a hazard tree(s) grant to a private homeowner on a one time basis
- Grant could help offset expenses associated with hazard tree removal
- Native replacement tree(s) can be required in exchange for accepting a grant
- Native replacement tree(s) supplied by the DNV
- Eligibility should be based on where private property is contiguous to DNV controlled parkland with similar inter face forest management goals

# Hazard Tree Replacement Program

## BENEFITS

- Firesmart and climate resilient species are planted on private property
- Assists with higher risk fuel removal on private property adjacent to DNV natural parklands
- Replacement tree(s) can be added to the Urban Tree Canopy Program inventory for monitoring
- Replacement trees can be identified as protected under the Tree Protection Bylaw
- Staff no longer providing service delivery (hazard tree permits) at a loss

# Street Tree(s)

## Request to plant trees on boulevards and ROW's

- Request is screened by Parks, Engineering and Development Services to ensure no conflicts exist or would be created
- New DNV standards (traffic visibility, transportation infrastructure etc.) make siting boulevard trees difficult
- New boulevard trees need to be inventoried and added to Park's maintenance list.
- Parks has discretion as to whether they want to accept new street or boulevard trees into their inventory
- Boulevard trees are added through larger development projects where all department have reviewed and approved the species and locations

# Discussion



# Questions?

# Additional Reference Slides



# Tree Protection Bylaw 7671

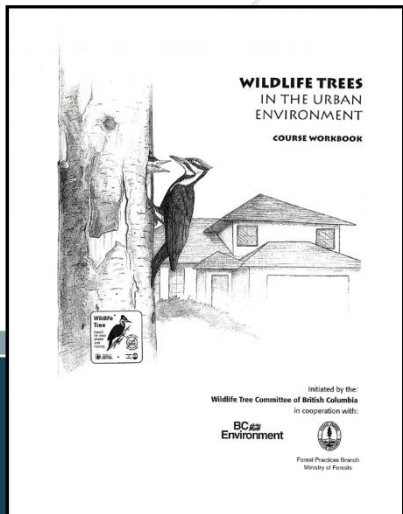
## Protected Species

- *Arbutus (Arbutus menziesii)*
- *Garry Oak (Quercus garryana)*
- *Oregon Ash (Fraxinus latifolia)*
- *Pacific Yew (Taxus brevifolia)*
- *Western White Pine (Pinus monticola)*
- *Yellow Cedar (Chamaecyparis nootkatensis)*

# Tree Protection Bylaw 7671

## Wildlife Tree General Characteristics

- > 15m in height
- Broken tops
- Large branches and diverse branching
- Loose bark in behind intact bark
- Nesting cavities or feeding excavations
- Some decay or disease (i.e. fungal conks, witches' broom or open cavities)



# Tree Protection Bylaw 7671

Purple Beech



Damson



Schedule A - Designated Heritage Trees

# Tree Protection Bylaw 7671

## Permits Required - Protected Tree(s)

- International Society of Arboriculture Certified Arborist (ISA Cert) - Reports
- Hazard trees require Certified Arborist with Tree Risk Assessment Qualification (TRAQ)
- Owner(s) consent
- Description of proposed work
- Site plan showing location of tree(s)
- Description of *cutting* and/or *removal methods*
- Details for tree protection – *retained tree(s)*

# Tree Protection Bylaw 7671

## Additional Reports that may be required

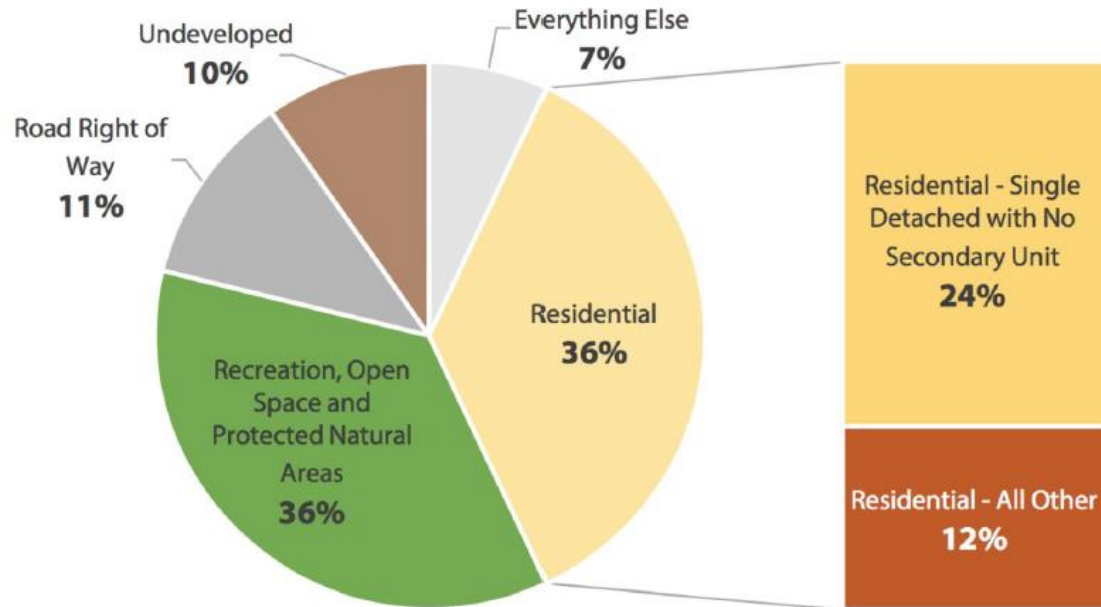
- Registered professional report
  - P.Eng./P.Geo.- *sloping terrain stability*
  - RPF/RFT – Interface Fire/FireSmart Assessments
  - R.P.Bio. – Streamside, Nesting Survey, Protection of the Natural Environment DPA
- Replanting plan
- DNV discretion on above requirements
  - Obviously dead tree(s) – No Arborist report required
  - Emergency tree work

# Proposed Bylaw Changes

- Currently the Tree Protection Bylaw S. 32(b) allows for a maximum fine of \$10,000 per offence.
- The Community Charter was recently amended to allow local governments to increase the maximum allowable fine under a tree related bylaw to \$50,000.
- Increasing the maximum penalty would provide more deterrent for egregious unlawful tree removal.



# Proposed Bylaw Changes



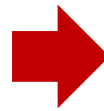
- Metro Vancouver total tree canopy area by land use type
- Importance of RS zoned lands specifically single family zoned detached lots

Source: Regional Tree Canopy Cover and Impervious Surfaces, Metro Vancouver, 2019



# Proposed Bylaw Changes

- Increase in impervious surface after RS redevelopment
- Evaluated by comparing imagery of 2003 and 2009



## Increase in:

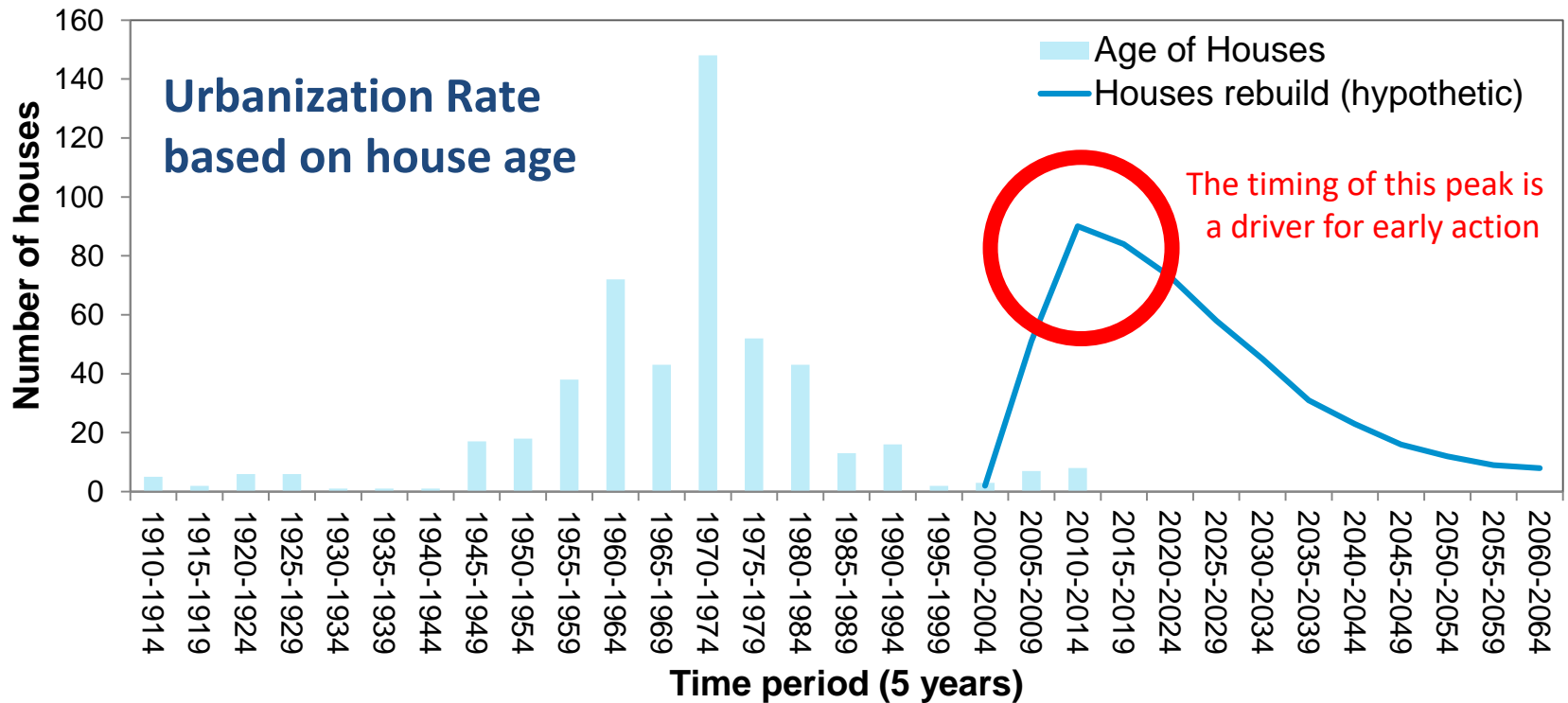
**Roof surface: 68%**

**Asphalt surface: 63%**

**Total impervious surface: 66%**

*"Innovative Stormwater Management Hoskins Creek District of North Vancouver",  
D Freudiger, MSc Thesis, 2012, Swiss Federal Institute of Technology*

# Proposed Bylaw Changes

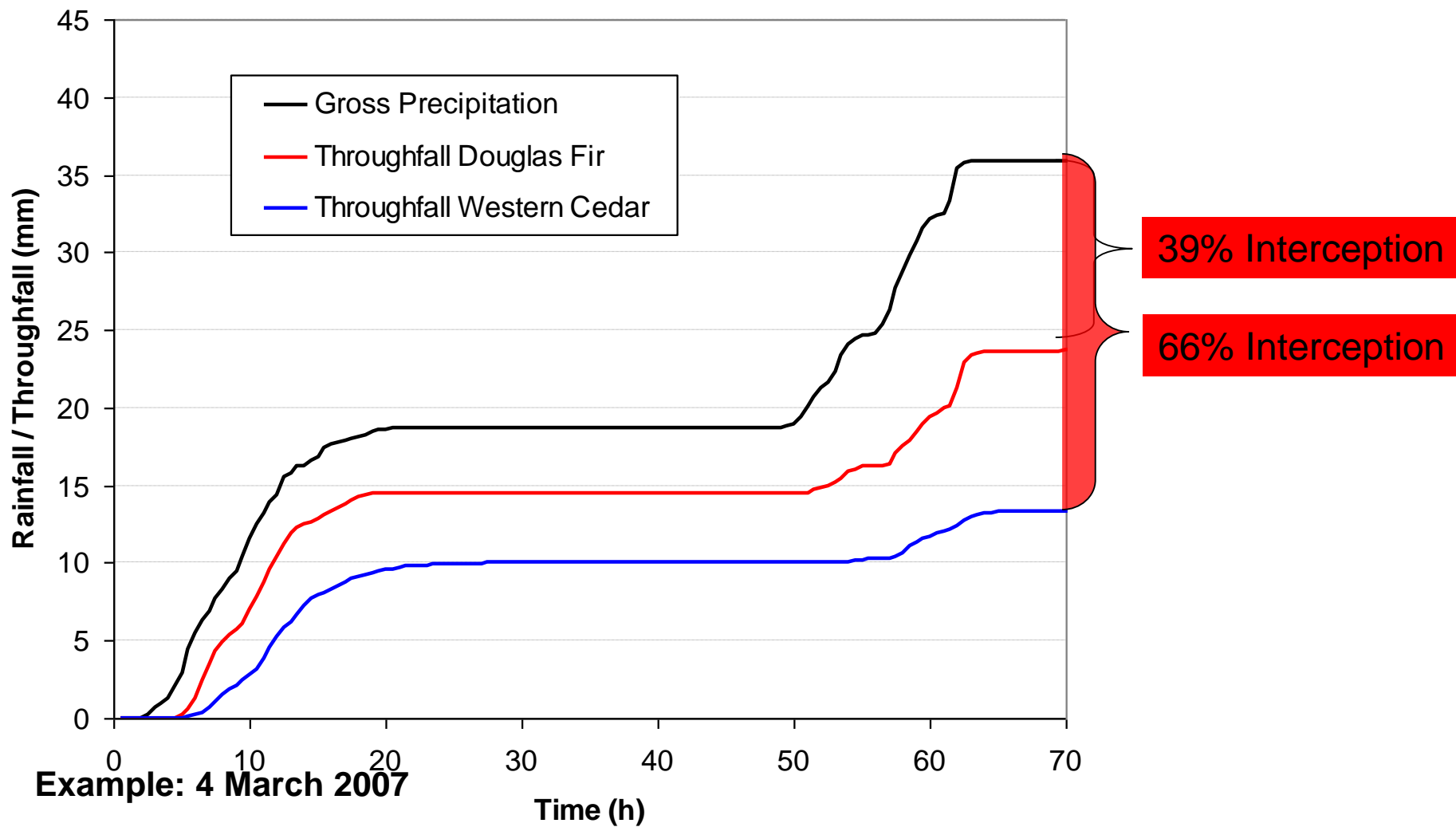


- **71%** of the houses in Hoskins Creek were built **before 1975**.
- It is expected that houses older than 45 years will be renovated or rebuilt within the next 20 years.

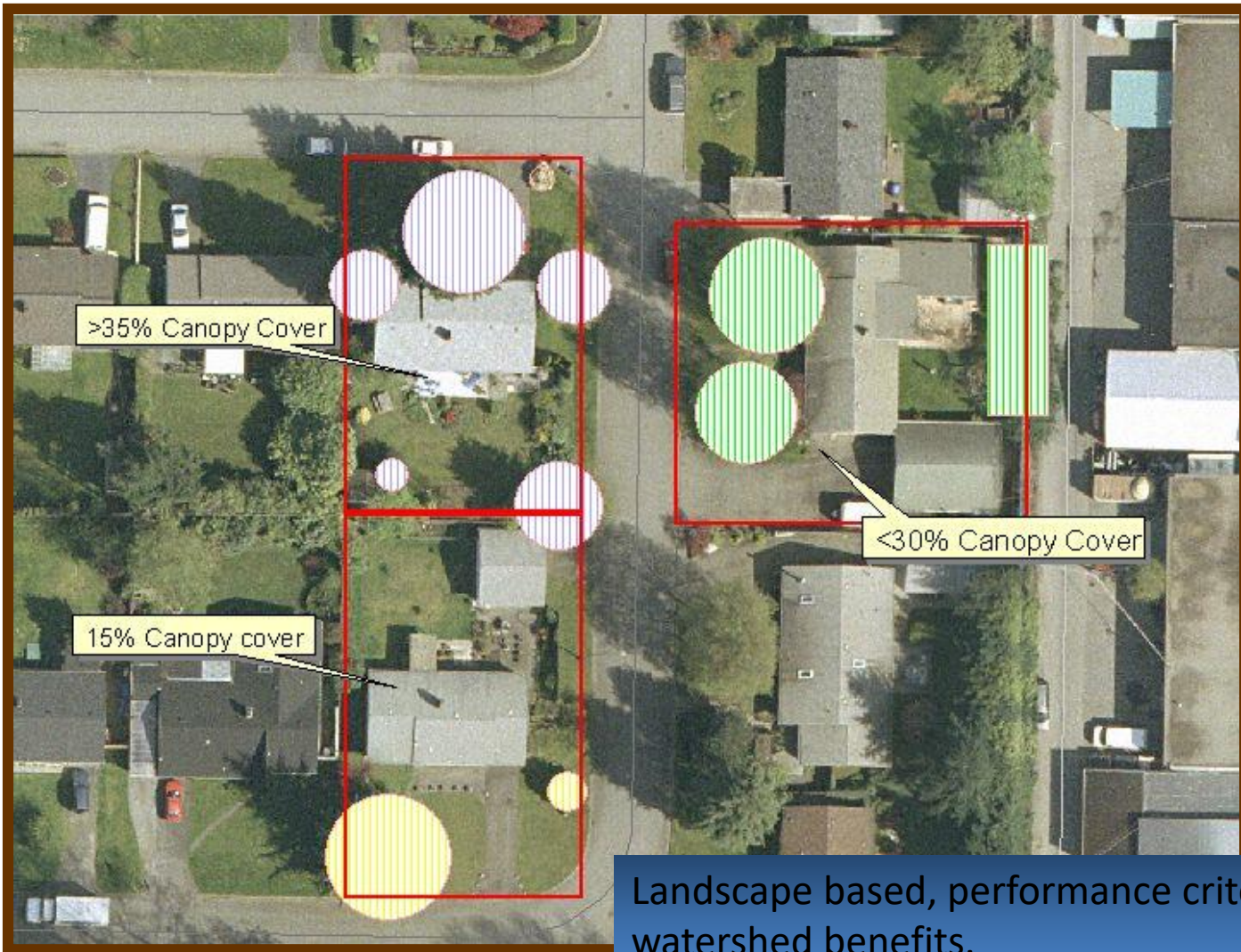
# Urban Tree Canopy Rainfall Interception

- A network of 60 Tree Canopy Climate Stations was established across the North Shore
- To investigate the effects of tree density, tree structure and tree species on rainfall interception









Landscape based, performance criteria for watershed benefits.

# Green Infrastructure & Natural Assets

## Watersheds are Green Infrastructure Assets

- They provide potable water
- They retain, detain and slowly release rainfall to streams (flood protection)
- They provide air quality benefits (pollutant removal, carbon sink)
- They provide habitat for Ecology that is important to humans (food, shelter, nature)
- They are transportation routes

To function properly they need to be in balance with input (rainfall) equal to the output (Stream flow) UNDER NATURAL CONDITIONS

# Green Infrastructure & Natural Assets

## TREES

- Purest form of green infrastructure
- Provide multiple different services
- Generally low risk assets
- Incredible cost – benefit ratio
- Appreciating lifecycle asset (i.e. more service and value with age)

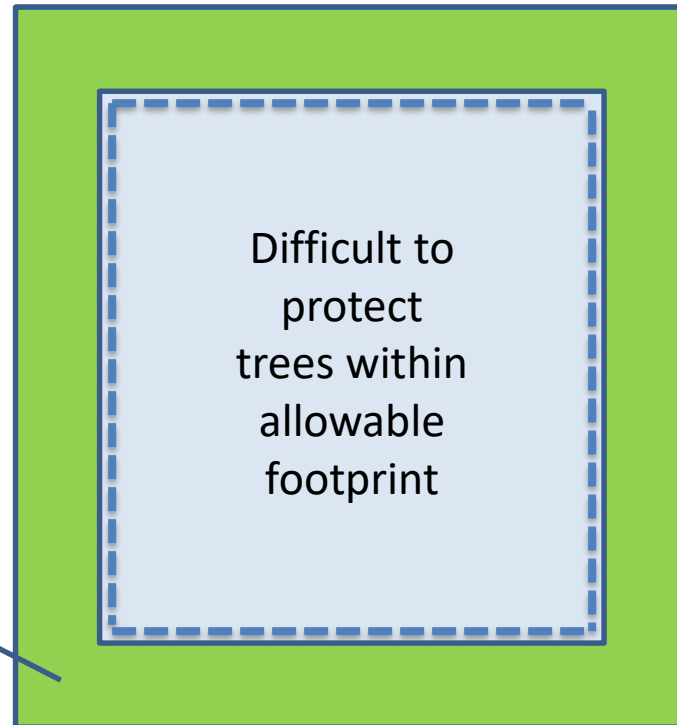


# Zoning Bylaw Conflicts

## Zoning Bylaw

- Required setbacks
- Allowable site coverage
- Access (driveways)
- Below grade structures

## Zoning footprint



Tree protection on private non significant lands only in these areas

# Street Tree(s)

- In January 2008 the inventory was over 3100 trees
- Does not include native or naturally occurring trees on boulevards and other DNV controlled lands
- The scale of ongoing inventory updates and maintenance is challenging
- Parks has asked for resources for this program