

Managing Interface Fire Risk

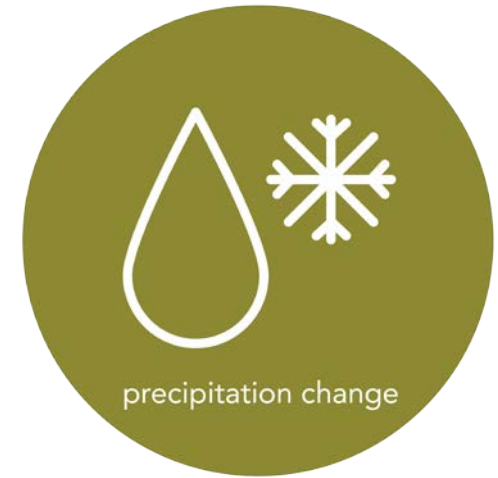
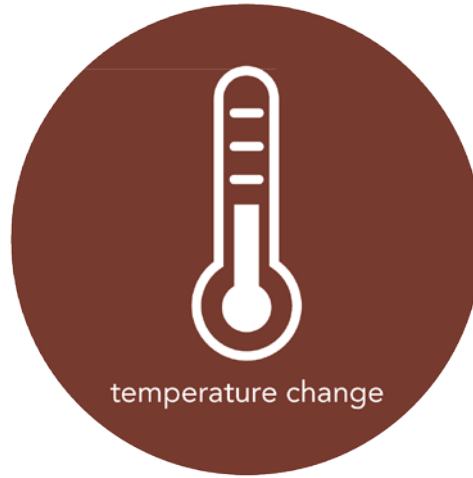
Council Workshop June 2016



BY 2050, IN NORTH VANCOUVER

TYPES OF CLIMATIC CHANGES

1. Warmer & drier summers
2. Increased rainfall in winter, decreased snowfall
3. Sea Level Rise
4. More frequent & severe extreme weather events



>> Although these changes are predicted to occur by 2050s, some are already happening

2014 - 2015

RECENT IMPACTS

- Record-setting summer temperatures
- Drought
- Forest fires
- Limited snowpack

Dorit Mason



CLIMATE CHANGE IMPACTS

RESIDENTS

- Personal health and safety concerns
- Water systems affected
- Property and public amenities damaged
- Recreation areas damaged
- Quality of life reduced

>> What we value is vulnerable to a changing climate



CLIMATE CHANGE IMPACTS

THE DISTRICT

- Natural hazards more challenging to manage
- Increased spending to maintain public assets
- Staff priorities redirected to emergency response & recovery
- Reduced capacity to maintain current operations

>> Municipal services and public infrastructure will be affected by climate change



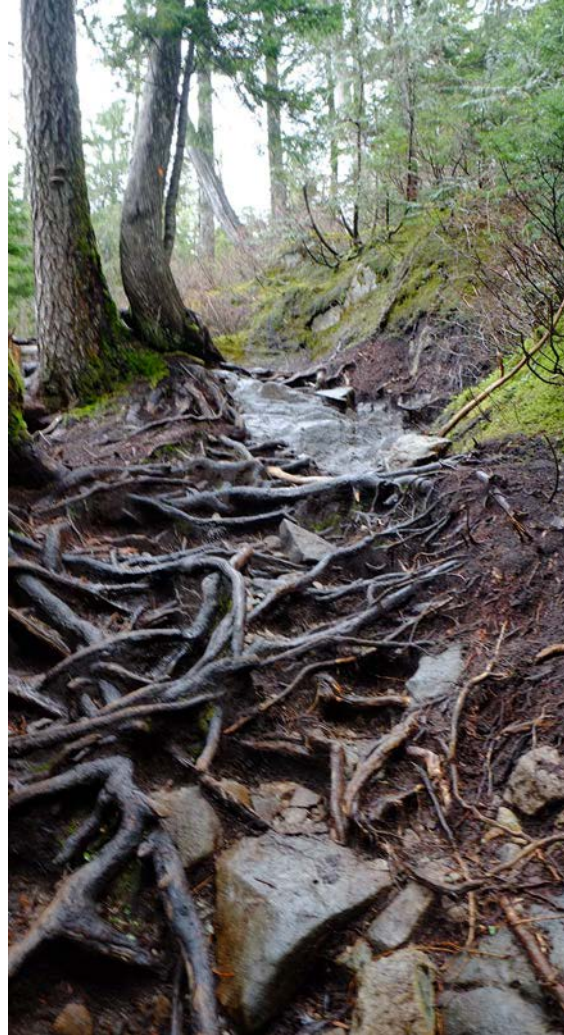
CLIMATE CHANGE IMPACTS

THE ENVIRONMENT

Loss or reduction of:

- Native biodiversity
- Ecosystem services
- Foreshore areas

>> The environment is invaluable and irreplaceable, and climate change is a major threat

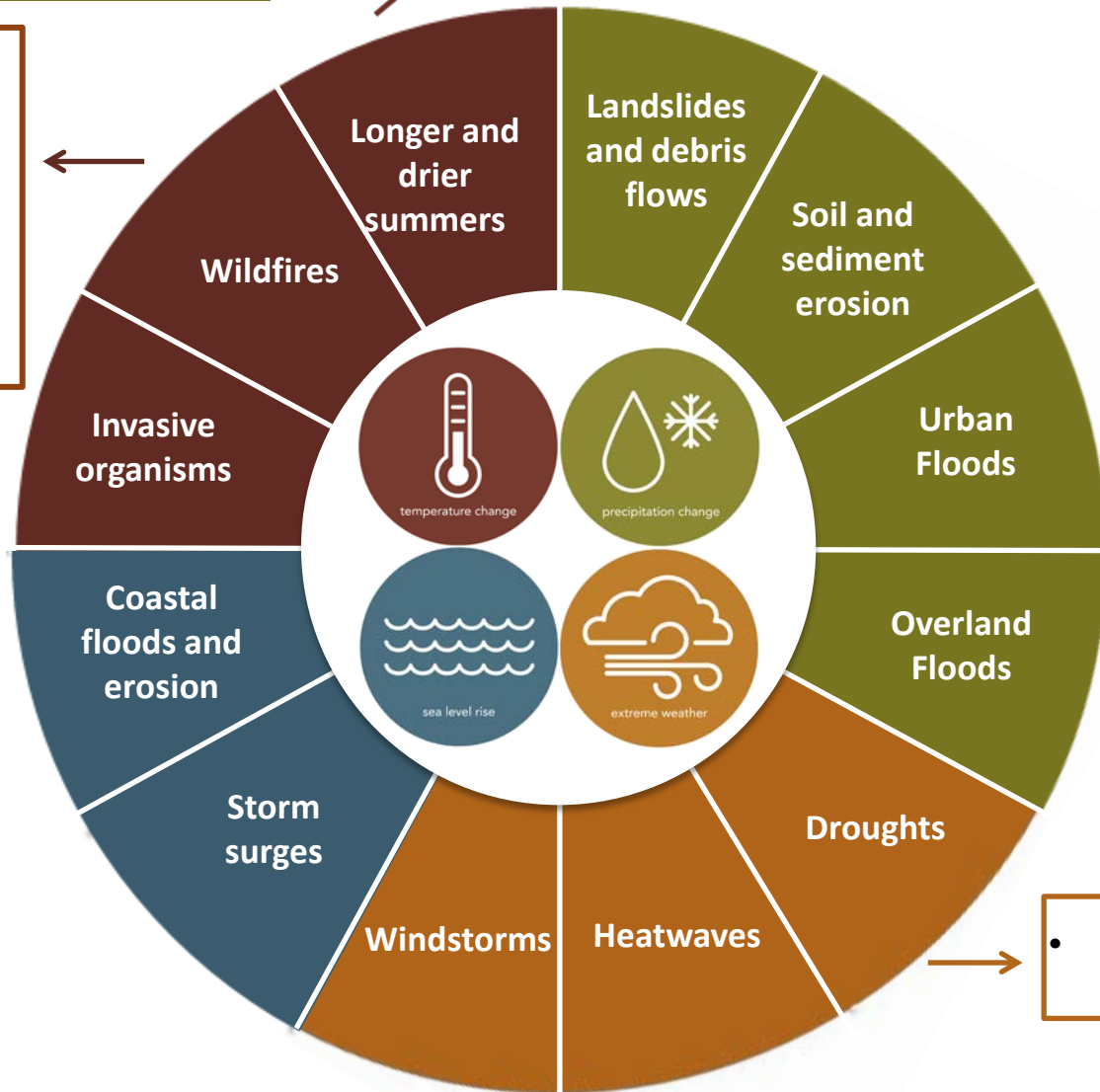


Seymour Salmonid Society

PRIORITY CLIMATE CHANGE IMPACTS

- Structural damage
- Displaced residents
- Reduced access to recreational areas
- Psychosocial impacts to staff
- Reduced air quality
- Increased landslide and debris flow risk

- Increased number of days in high & extreme fire danger



- More vulnerable forests

- Forest & ecosystem health degradation

WILDLAND-URBAN INTERFACE



WILDLAND-URBAN INTERFACE



Forest
↓ ↑
Community

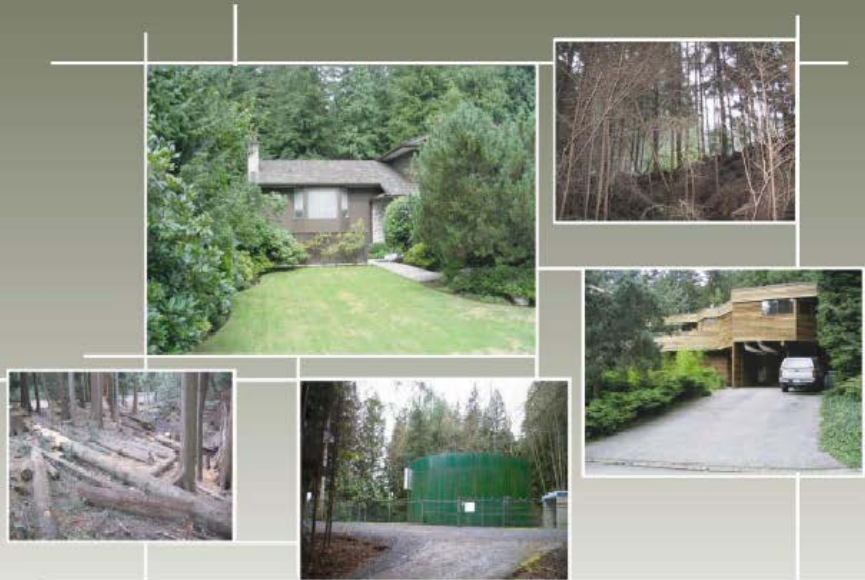


COMMUNITY WILDFIRE PROTECTION PLAN

38 recommendations:

- Hazard & risk mapping
- Communication & education
- Policy & planning tools to improve structure protection
- Training
- Fuel management
- Post-fire rehabilitation

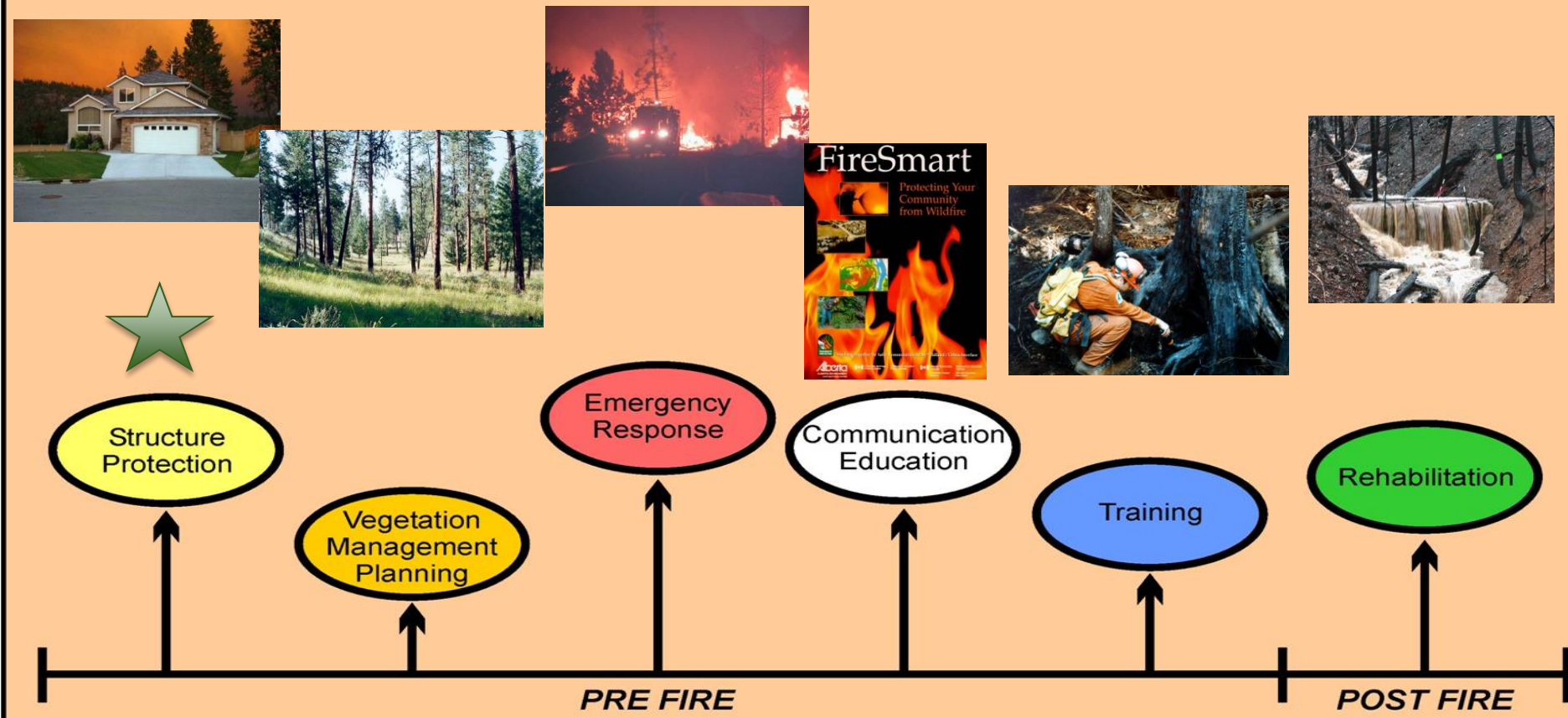
DISTRICT OF NORTH VANCOUVER COMMUNITY WILDFIRE PROTECTION PLAN



B.A. Blackwell & Associates Ltd.
April 2007



COMMUNITY WILDFIRE PROTECTION PLAN



**Wildland Urban Interface
C o n t i n u u m**

BUILDING MATERIALS



CREATE DEFENSIBLE SPACE



REDUCE CONNECTIVITY



2012 BBQ FIRE UPPER LONSDALE

- spread from home to adjacent continuous mature stand of trees
- cedar siding construction



Photo B.A Blackwell & Associates Ltd.

EVIDENCE



WILDFIRE PROTECTION EQUIPMENT

DNVFRS:

- Sprinkler Protection Unit
- Compressed Air Foam
- Wildland trailer
- Fire boats

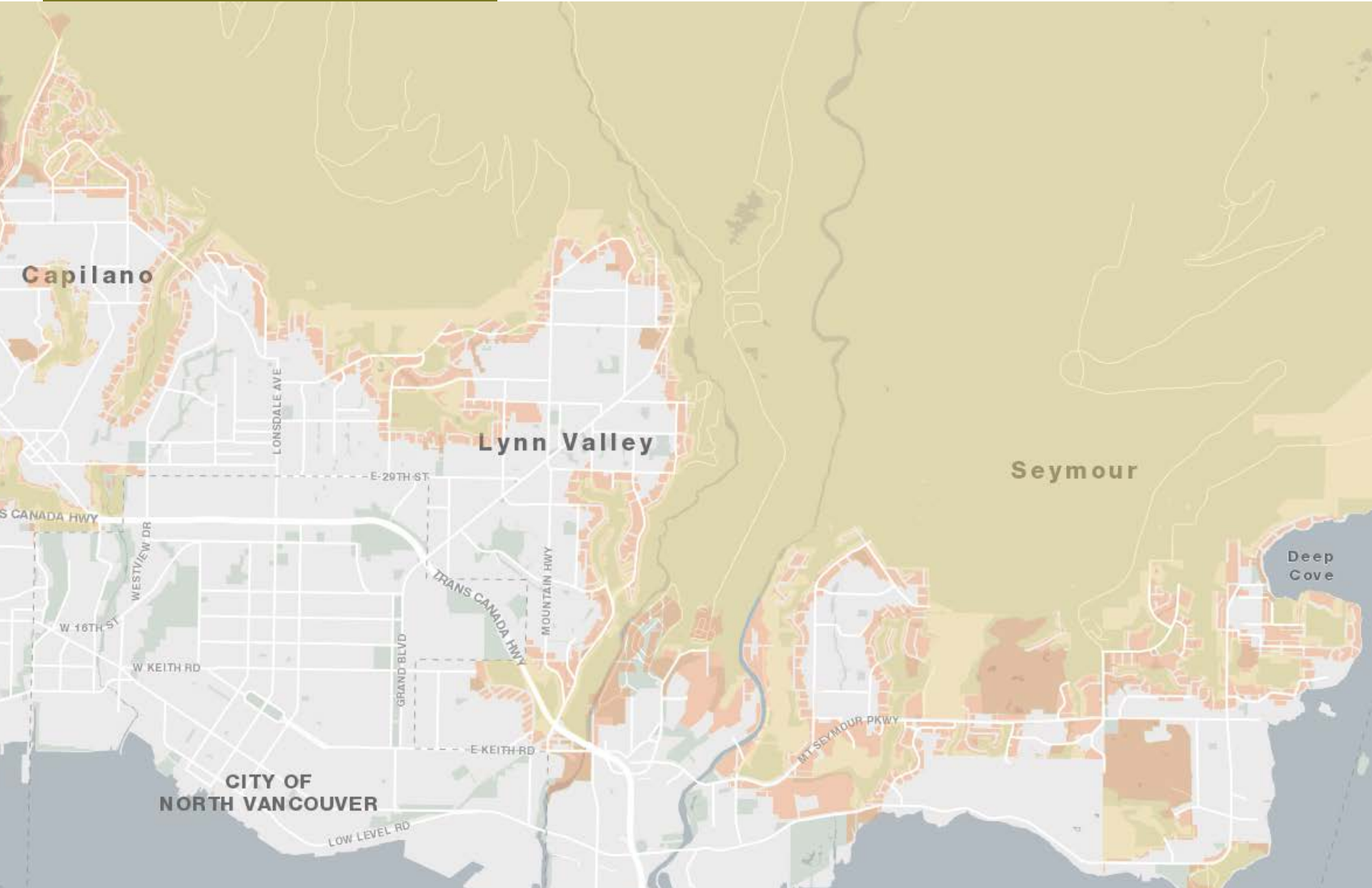
DNV Engineering/Parks:

- Water tanks mounted on trucks
- Vactor/flusher
- Parks fire suppression/mop up equipment

Ski resorts, Metro, BC Wildfire, BC Parks



WILDFIRE HAZARD DPA

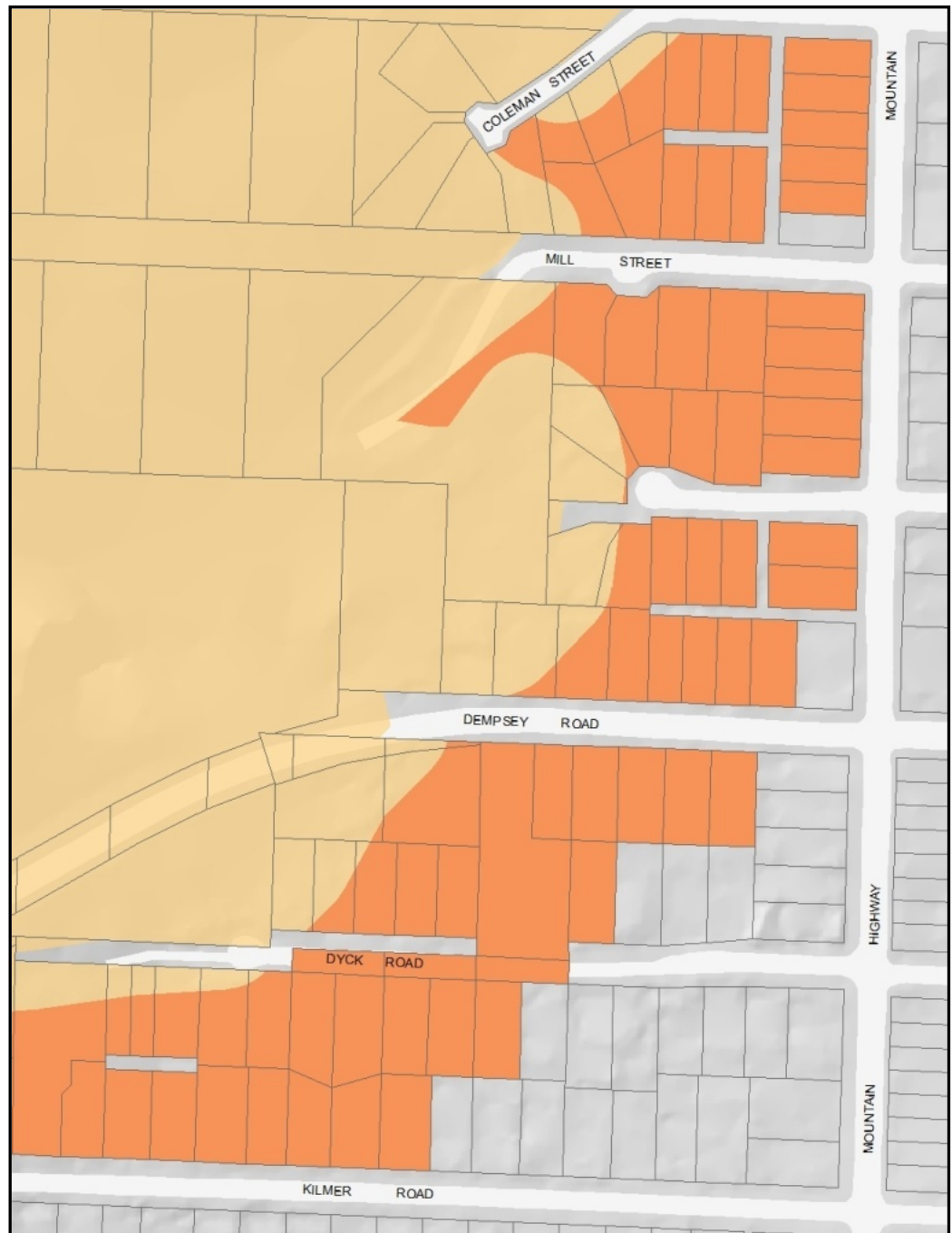


WILDFIRE HAZARD DPA

Objectives:

- Manage development to reduce wildfire risk using Firesmart principles
- Reduce likelihood of structural fire spreading to neighbouring properties and the adjacent forest
- Minimize associated post-fire landslides, debris flows, flooding and erosion
- Protect people, property and environmental values

Since adoption, 113 new homes developed meeting Wildfire DPA guidelines



COMMUNITY WILDFIRE PROTECTION PLAN



Structure Protection

Vegetation Management Planning

Emergency Response

Communication Education

Training

Rehabilitation

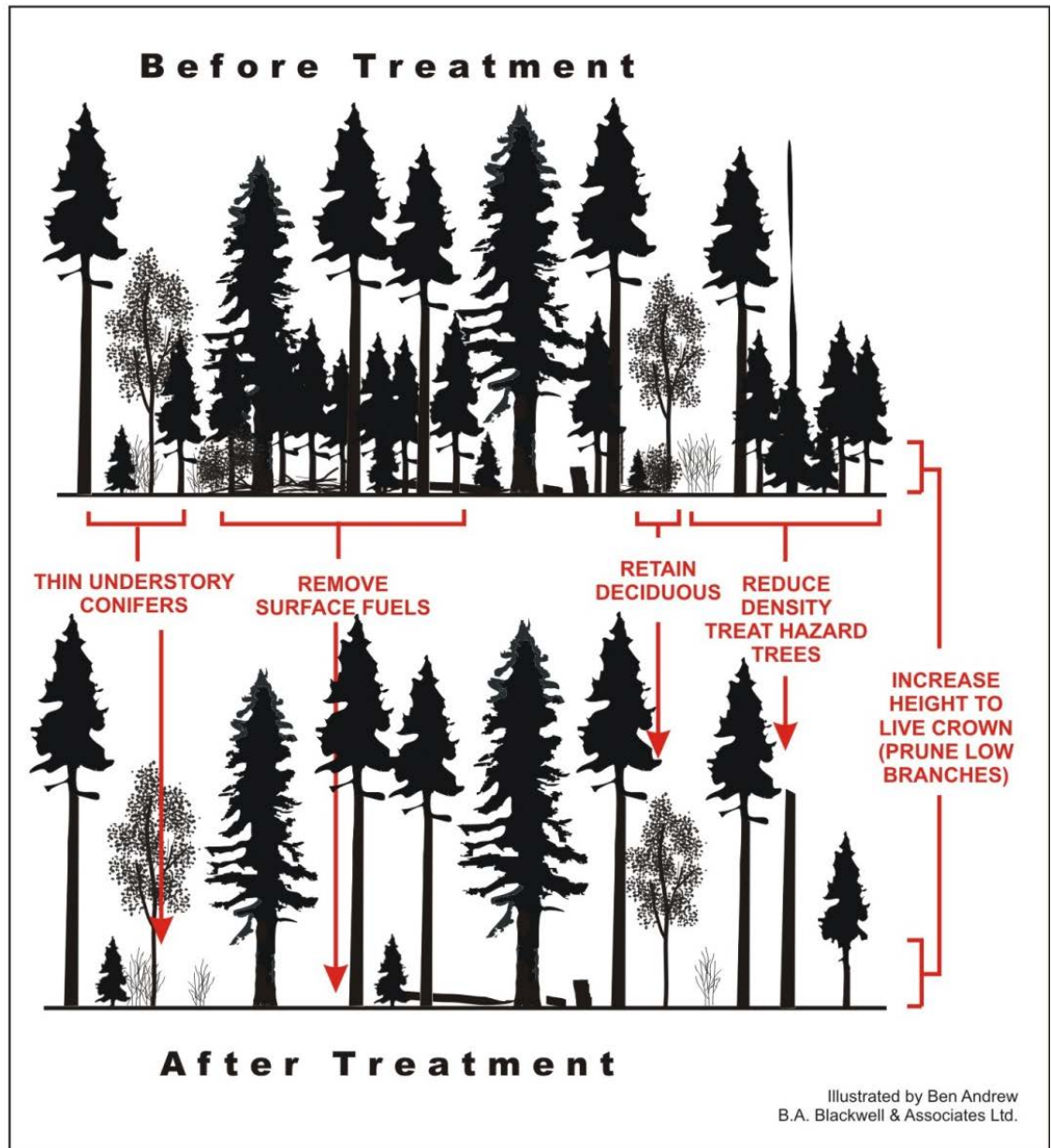


PRE FIRE POST FIRE

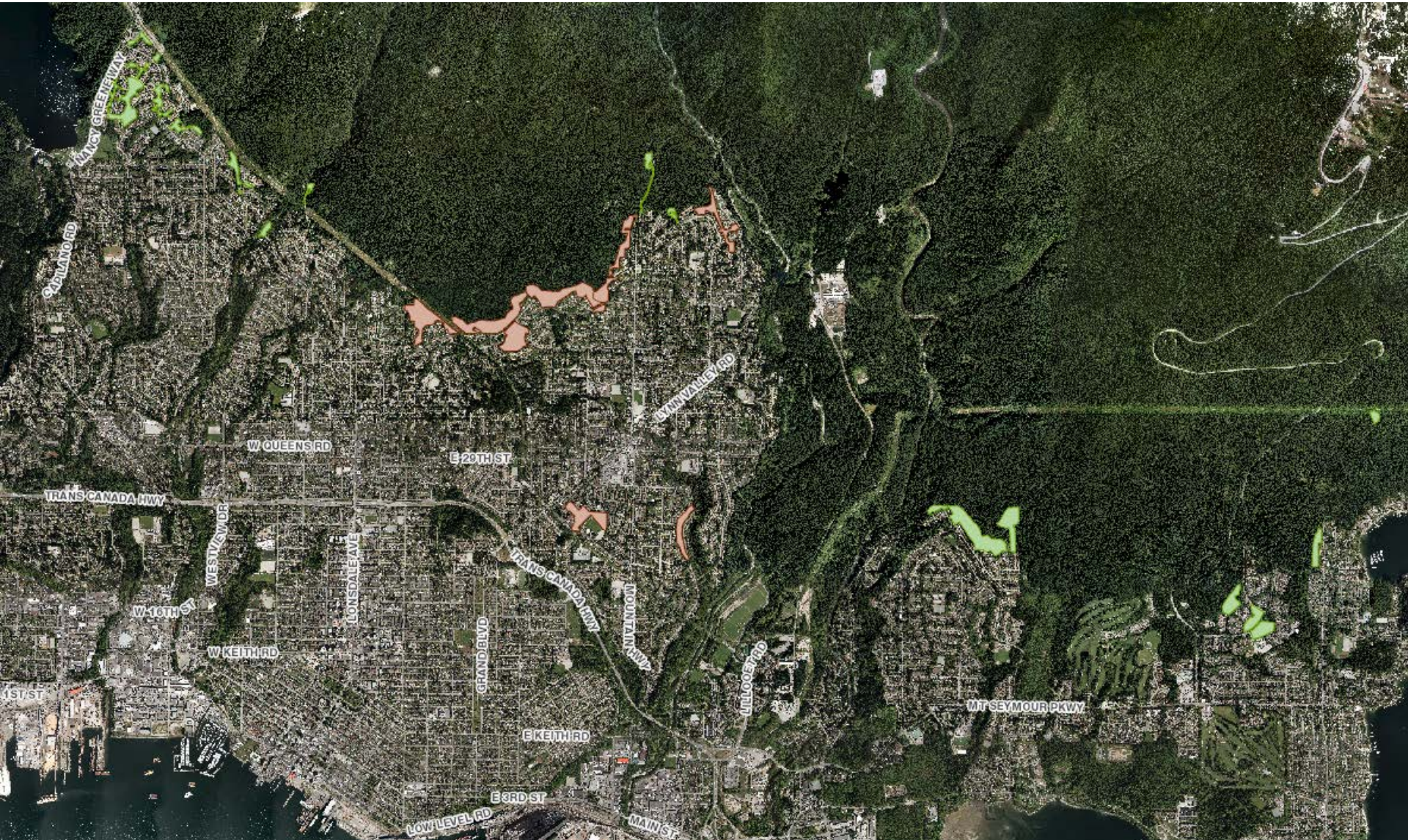
Wildland Urban Interface *C o n t i n u u m*

FUEL & VEGETATION MANAGEMENT STRATEGY

- Retain:
 - Coarse woody debris
 - High-value wildlife trees
 - Deciduous trees
 - Healthy, mature trees
- Reduce:
 - Overall density
 - Ladder fuels
- Remove:
 - Surface fuel accumulations
 - Understorey conifers
 - Hazard trees



DEBRIS & VEGETATION MANAGEMENT STRATEGY



GROUSEWOODS PARK



PROTECTING COMMUNITY INTERESTS

- Hazard tree identification and removal
- Protect trail systems
- Protect aquatic & bird habitat
- Protect surface run-off patterns
- Sustainable forest management
- Remove invasives



HYANNIS RE-PLANTING



Pre-planting
Nov 2013

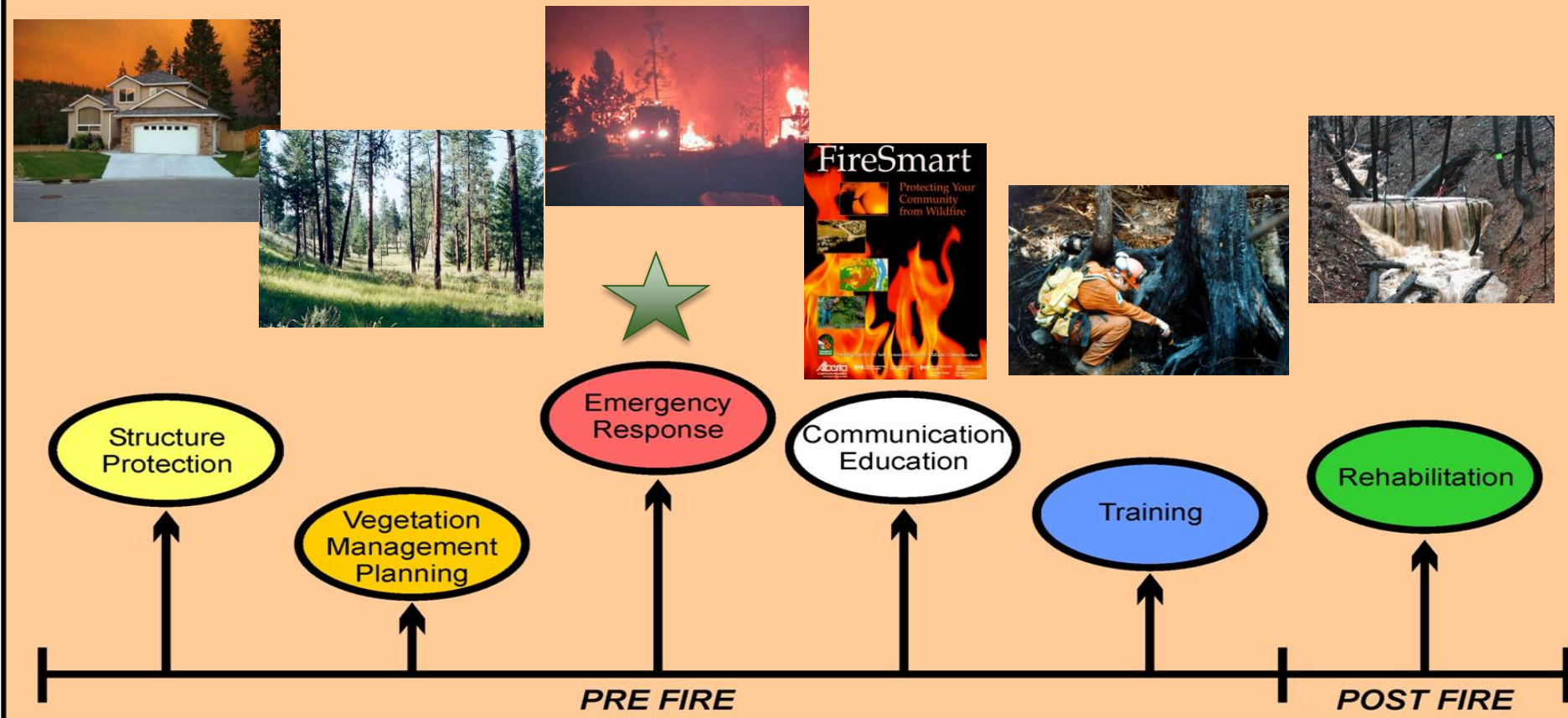


Post – planting
Oct 2014



Post-planting May 2016

COMMUNITY WILDFIRE PROTECTION PLAN



**Wildland Urban Interface
C o n t i n u u m**

OPERATION DRY LIGHTNING 2

- Field tested evacuation methodologies
- Multi-agency participation
- Experiential learning opportunity for staff & volunteers
- Testing of new technologies
- Cost savings by design & delivery by NSEM
- Great media coverage showcasing North Shore municipalities



FireSmart® your property

If you wait, you may be too late



Rotate Clockwise
Rotate Counterclockwise

Priority Zone 1

HOME / 10 metres

This should be a fire-resistant zone, free of all materials that could easily ignite from a wildfire.



REGULAR MAINTENANCE:

Regularly clean your roof, gutters, etc. of debris.

FIRESMART RENOVATIONS:

As your budget allows, renovate your home with fire-resistant materials, mesh debris screens, a chimney spark arrestor, etc.



FIRESMART LANDSCAPING: Keep woodpiles, propane tanks, outbuildings and combustibles at least 10 metres away from your home. Consult the *FireSmart® Guide to Landscaping* for more tips.

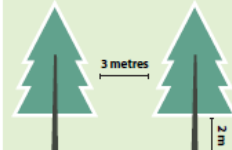


YARD MAINTENANCE: Regularly mow your lawn. Remove deadfall, coniferous trees and other flammable vegetation. Sweep your decks and rake up tree needles, leaves and debris.

Priority Zone 2

10 - 30 metres

Reduce fuels in this area by thinning and pruning vegetation and trees. This will slow a fire's spread.



TREE SPACING:

Space trees at least three metres apart.

PRUNING TREES:

Prune all branches within two metres of the ground.



REMOVE SURFACE FUELS: Regularly clean up accumulations of fallen branches, dry grass, needles and other flammable debris from the ground.



PLANTING NEW TREES: If you're going to plant new trees in this zone, consider planting deciduous species like aspen, poplar and birch. They have lower flammability rates.

Priority Zone 3

30 - 100 metres

Try to thin out trees and other vegetation. This will help reduce a wildfire's intensity and slow its spread.



THIN AND REMOVE CONIFEROUS TREES:

Space dominant trees at least three metres apart, and remove any understory trees that are in close proximity that could act as a ladder for fire to move into the tree tops and spread. Retain deciduous trees which are resistant to wildfire.



NOT YOUR LAND? If there's property within 100 metres of your home that is owned by your neighbours, get them engaged in the *FireSmart® Community Recognition Program!*



GET IN TOUCH: Think your community is at risk to wildfire? Contact your municipal councillor, planning department or fire service to express your concerns.

Fire Risk Reduction Works

This public safety work is to protect essential facilities and residential homes which are located in the wildland urban interface. The work is designed to be sensitive to our forest and streamside ecosystems.

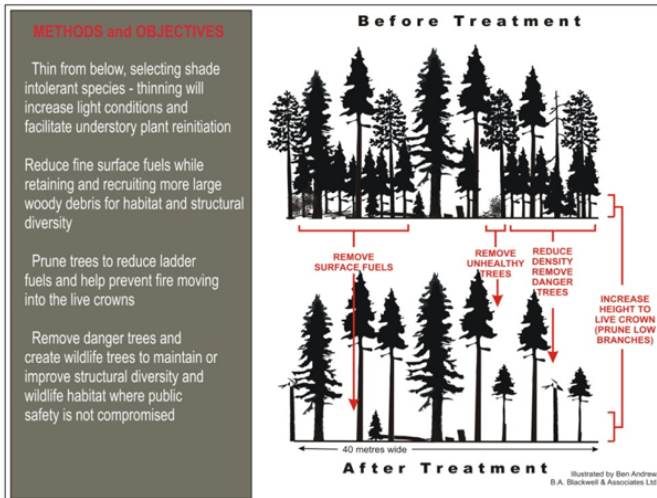
Example pre-treatment Grousewoods Park



Dense, small trees and fallen woody debris under a canopy of mature trees provide fuels for forest fires and prevent understory vegetation from growing

DISTRICT of NORTH VANCOUVER

More information about the program can be found on our website
<http://www.dnv.org/programs-and-services/reducing-wildfire-risk-district>



Example post-treatment Grousewoods Park



Retention of the large trees, snags and decaying logs creates structure similar to that found in old forests. It also reduces fire hazard and allows understory vegetation to re-establish.



Example Grousewoods
Park 6 yrs post-treatment

Funding Provided by the Province of B.C. through the
 Union of BC Municipalities Strategic Wildfire
 Prevention Initiative



If you have any questions, please contact the District Forester at 604-990-2350

EMERGENCY PREPAREDNESS

- Staff & residents encouraged to be prepared at home and at work
- Register for Rapid Notify at www.nsemo.org to receive important emergency alerts and messages

REGISTER FOR RAPID NOTIFY

RAPIDNotify

Rapid Notify is one tool that may be used to notify the public in the event that emergency messaging needs to be conveyed to residents and businesses of the North Shore. Further information can be found at [Rapid Notify Alerting System](#).

[Self-register](#) Today!



SUMMARY



More frequent and severe wildland-interface fires that will become more challenging to manage

More frequent and severe fires could:

- Damage public facilities and residential homes
- Reduce air quality
- Reduce access to outdoor recreational areas
- Impact forest ecosystems
- Increase landslide risk

The District is preparing:

- Community Wildfire Protection Plan
- Wildfire Development Permit Areas
- Fuel Management Program
- NS Interface fire working group
- Evacuation planning strategies

NEXT STEPS

- Update CWPP (2017)
- Post fire rehabilitation plan (2017)
- Educate contractors (2017)
- Complete fuel treatment work (2019)
- Natural capital asset management (long term)