CAMPBELL RIVER

BRITISH COLUMBIA

FireSmart

GUIDE TO GARDENING

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DISCLAIMER

The purpose of this book is to provide gardeners with guidance to help reduce losses from wildfire damage. It was developed by evaluating existing literature on fire-resistant plants and plant flammability. It contains suggestions and is intended to serve only as a guide.

CONTENTS

GLOSSARY

Compost
A mixture of decayed or decaying organic matter used to fertilize soil. Compost is usually made by gathering plant material, such as leaves, grass clippings, and vegetable peels, into a pile or bin and letting it decompose.

Ember
A hot fragment of wood or coal that is left from a fire and is glowing or smoldering.

Permaculture
Using the patterns and resilient features observed in a natural ecosystem.

Prevailing Winds
A wind that primarily comes from a certain direction.

Retention
Absorbing and continuing to hold a substance.

Swale
Shallow trenches along the land's contour to help rainwater soak into the ground and be stored in the soil.

1 FIRESMART INTRODUCTION

During a wildfire, millions of embers are carried through the air. Embers landing and starting fires on private property cause approximately 60 per cent of damage to homes during a wildfire. With climate change, there's a greater risk of wildfire.

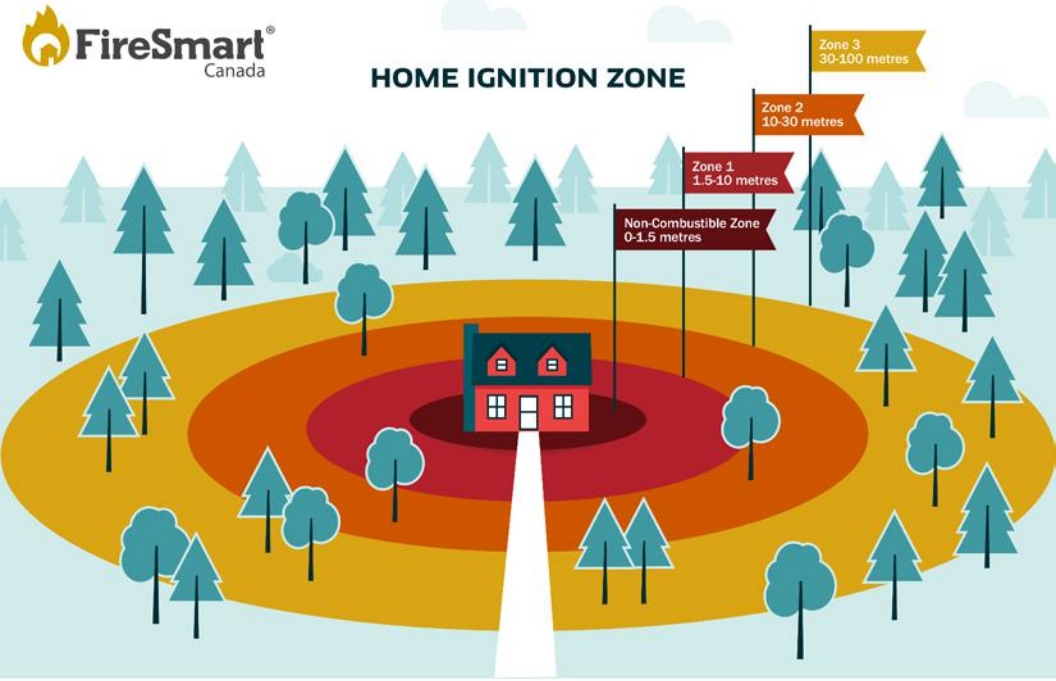
Future wildfires will be bigger, hotter, and more dangerous than fires in the past. This is because climate change causes hotter, drier conditions for longer periods. This creates a longer forest fire season, and makes our coastal forests more vulnerable to fire.

This book illustrates how incorporating fire resistant plants in lush landscapes reduces your chance that embers from a wildfire will damage or destroy your home.

This book is a collaboration between BC Wildfire Service, FireSmart BC, City of Campbell River, Greenways Land Trust, and the Strathcona Regional District.

For more information on the work that the City of Campbell River is planning to adapt to climate change please visit:

http://www.campbellriver.ca/planning-building-development/green-city/climate-action/climate-adaptation-strategy



Work with your neighbours in any overlapping priority zones!

For more information see the back of this book.

2 FIRE RESISTANT PLANTS

Fire resistant plants don't catch fire as easily as other plants. They can be damaged or even killed by fire, but their leaves and stems hold more moisture, so they don't help fuel a fire.

Fire resistant plants have:

- moist, supple leaves
- many healthy leaves (shade the ground and retain water)
- water-like sap with little or no odour
- less dead wood, tendency not to accumulate dead material
- less sap or resin

When designing your garden or landscaping, plant fire resistant plants in the path of prevailing winds during fire season. In most cases, fire and embers will come from that direction.

This book provides a list of annuals, bulbs, ground cover, perennials, shrubs, and trees that are fire resistant. We have not listed every option available.

Annuals

Dusty Miller

Geranium

Pansy

Salvia

Snap Dragon

Sunflower

Bulbs

Crocus

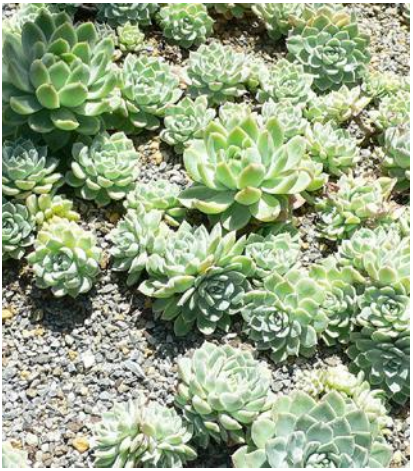
Daffodil

Lily

Nodding Onion

Tulip

Ground Cover



Hens and Chicks

Stonecrop

Perennials

Bergenia

Hostas

Lamb's Ear

Lavender

Red Hot Poker

Yarrow

Vanilla Leaf

Showy Milkweed

Sword Fern

Shrubs

Azalea

Black Currant

Nootka Rose

Oceanspray

Red Huckleberry

Red-Osier Dogwood

Salal

Tall Oregon Grape

Thimbleberry

Twin Berry

Willow

Trees

Red Alder

Apple

Dogwood

Cascara

Pin Cherry

Sitka Mountain Ash

3 PROPERTY WATER RETENTION

A healthy, moist, lush landscape is more fire resistant and offers greater fire protection. All plants need healthy soil, sun, and water. To ensure plants thrive, use mulch to retain water and locate plants where they'll get enough sunlight to thrive.

FireSmart guidelines recommend maintaining a non-combustible surface that extends for 1.5m outwards from the farthest extent of your home (including combustible attachments such as wood decks). However, these materials are susceptible to ignition from wildfire embers or cigarettes, and can increase the threat of fire to your home when used in the non-combustible zone. Non-combustible materials such as pavers, gravel, rock, or a combination of plant mulch and decorative non-combustible features can be used to reduce the risk. This zone is critical in protecting your home from wildfire. It is important to seek site-specific advice from a landscaping professional with FireSmart expertise before introducing plants, compost, or mulch into this zone.

Campbell River gets five times more rain in winter than it does in summer. Storing that rain will provide a much healthier environment for our plants. Design flower beds and vegetable gardens on your property to soak up water. Plant in areas that will catch water, near surfaces that drain toward the plants, and near buildings with roofs that can collect water and direct it to the garden outside of the 1.5m non-combustible zone.

Permaculture swales and rain gardens can help accomplish this.

Swales

Swales are shallow trenches to help rainwater drain into and be stored in the soil.

Build Swales

- 3.3 metres (10 feet) away from a building (water must drain away from building)
- uphill from a garden or low spot that doesn't drain well
- along the land's contour
- based on an infiltration rate of at least 2.5 centimetres (one inch) per hour.

Rain Gardens

Rain gardens are fed by gutters or hard surfaces that don't absorb water (such as driveways). Rain gardens help store ground water and clean runoff.

Rain gardens and swales need to be carefully designed to ensure that water is not unintentionally discharged onto roadways or other properties.

Compost

Compost is the other key ingredient that may establish fire resistant landscapes. In the appropriate locations, compost helps the soil hold water and supports healthier plants. Compost consists largely of decayed organic material such as vegetable scraps, yard waste, leaves, branches, and wood chips gathered from your yard while cleaning up to reduce burnable material. **Do not use coloured bark or other non-decomposing materials in your compost.** Good compost will support plant health, help soil retain water, and keep your property cooler and FireSmart.

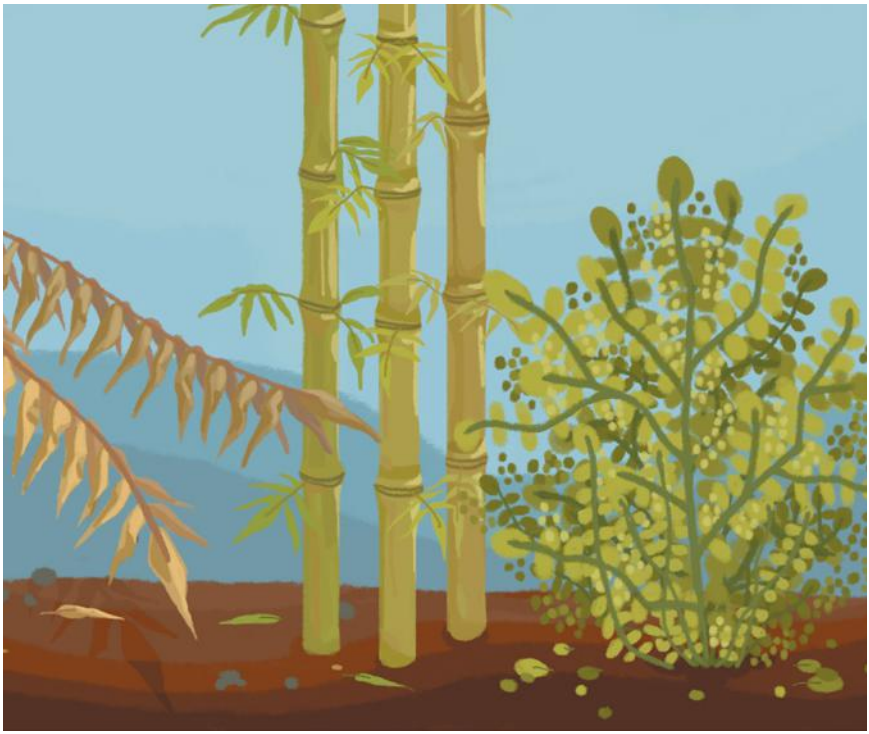
Note:

At this time, FireSmart Canada does not offer any broad recommendations regarding compost and suggests that it should be discussed with a local landscape professional with FireSmart expertise to ensure that you are doing the best for your particular property and climate.

4 PLANTS TO AVOID
(Flammable and/or Invasive Species)

Highly flammable plants have:

- dry, dead leaves or twigs within or underneath the plant
- dry, leathery leaves
- sparse branches (dry quickly, producing fuel)
- high oil or resin, including gums or terpenes
- shaggy, rough, or peeling bark
- needle-like or very fine leaves
- leaves with low moisture



Examples of plants to avoid include:

More flammable:

- Acacia
- Bamboo
- Cedar
- Cypress
- Eucalyptus
- Fountain Grass
- Juniper
- Pine

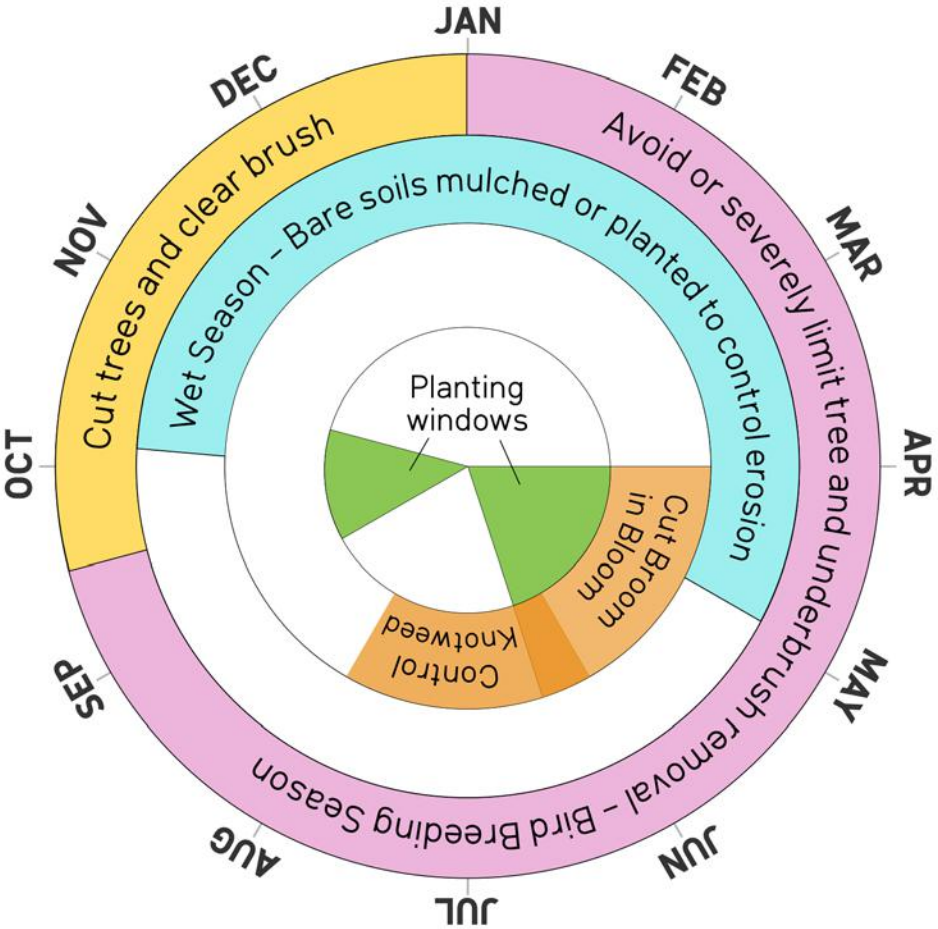
Fountain Grass

Invasive:

- Scotch Broom
- English Ivy
- Himalayan Blackberry
- Holly
- Knotweed
- Japanese Honeysuckle
- Reed Canary Grass

Himalayan Blackberry

5 PLANNING YOUR GARDEN ACTIVITIES



As you make your yard and garden fire resistant, working with nature and the changing seasons will help to bolster plantings and reduce harm to wildlife.

First, be aware if your yard is near a bald eagle nest tree, a creek, or other feature that may have a City of Campbell River development permit consideration. If you do need to remove trees, shrubs, or underbrush, time this work for mid-September to the end of December. This is the time when birds aren't nesting and tree removal at this time will also keep you in line with provincial and federal regulations that protect the nests of all breeding birds. Avoid removing large healthy mature trees. Focus on pruning the lower branches of these trees and managing the vegetation that surrounds the base of these trees.

Bald Eagles – breeding season, including courtship, extends from January through August.

Great Blue Herons – nest building can begin as early as mid-January with nesting extending through to mid-September.

All other birds – the general breeding window to cover all other bird species – from woodpeckers to songbirds – is from March through August. Some birds raise more than one clutch!

The wet season in Campbell River usually begins in early October lasting through the third week of April, although historic weather patterns are becoming less predictable with climate change. Ensure that any large areas of bare soil are mulched or planted in order to prevent rains from washing away valuable soil. If dirt is washed into storm drains, ditches, and creeks it can also foul important wildlife habitat. "Fouling" drainage systems, ditches, and creeks is regulated under the City's Environmental Protection Bylaw.

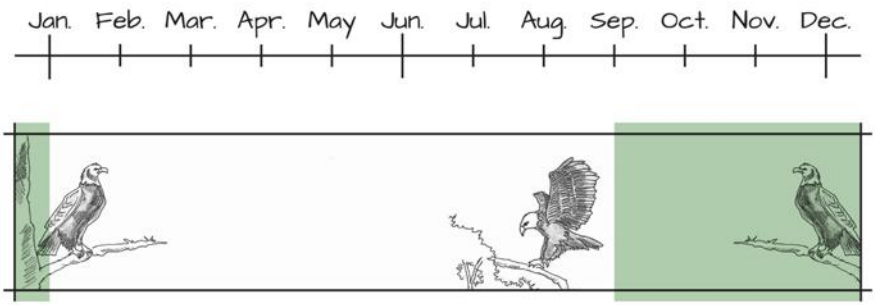
Planting during the spring and fall planting windows gives plants a chance to put down roots prior to summer droughts and winter cold when growing conditions are tough. This increases their chance of survival.

If you are removing invasive plants, remember to cut broom in bloom for best results, roughly in May and June, and knotweed control is best tackled in June and July. Both Scotch Broom and knotweed are regulated under the City's Environmental Protection Bylaw. If you have them, get them under control. Need help? Get in touch with Greenways Land Trust for advice and for availability on the knotweed treatment list.

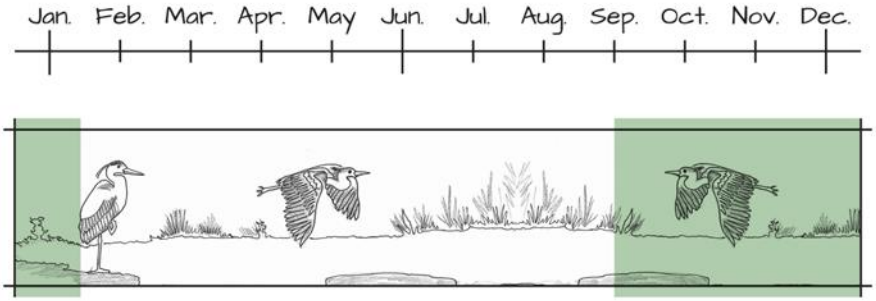
= General Work Windows

These are generalized windows of least risk established with the intent of guiding activities that may impact each species. Please seek further information regarding each specific species before commencing any activities that could negatively impact flora or fauna.

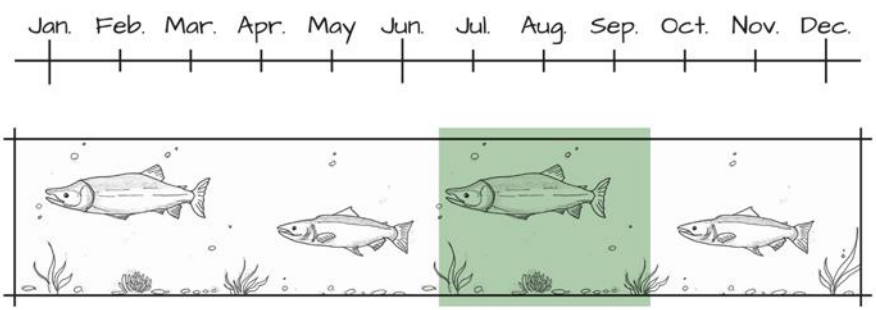
Bald Eagle



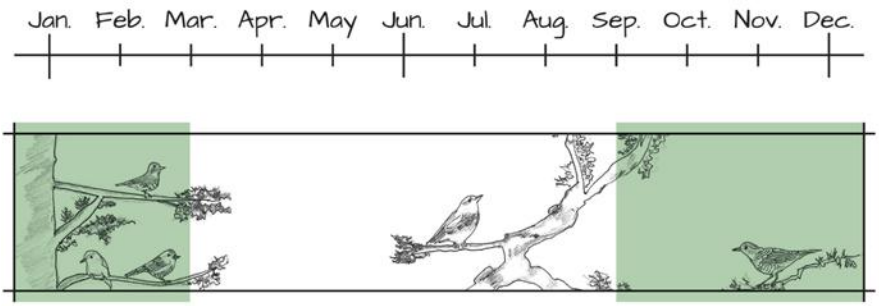
Great Blue Heron



Salmon, General



Breeding Birds, General - Vegetation removal



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Steffi Sunny, Original Renderings

6 RESOURCES

FireSmart Begins at Home Manual:

https://firesmartbc.ca/wp-content/uploads/2019/09/FireSmart_Booklet_web-Updated.pdf

FireSmart Guide to Landscaping:

https://firesmartcanada.ca/wp-content/uploads/2020/06/328254-PIP-Landscape-low-res.pdf

Grow Me Instead:

https://bcinvasives.ca/documents/GMI-Booklet_2013_WEB.pdf

Native Plants for the Home Garden – South Coastal British Columbia:

https://www.saanich.ca/assets/Community/Documents/NativePlants.pdf

Compost:

https://www.cswm.ca/gardening

Rain Gardens:

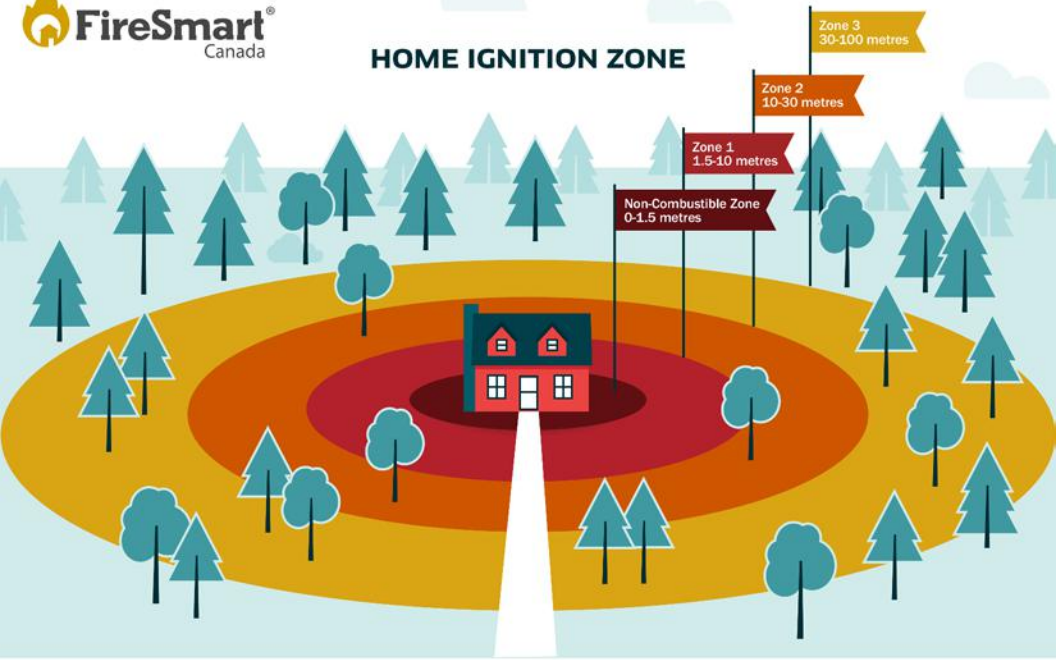
https://www.groundwater.org/action/home/raingardens.html

Why some homes survived: Learning from the Fort McMurray wildland/urban interface fire disaster:

https://www.iclr.org/wp-content/uploads/PDFS/why-some-homes-survived-learning-from-the-fort-mcmurray-wildland-urban-interface-fire-disaster.pdf

FireSmart® Canada

HOME IGNITION ZONE



Work with your neighbours in any overlapping priority zones!

Non-combustible Zone
(0-1.5 metres)

Reduce the chance of wind-blown embers igniting materials near your home. A non-combustible surface should extend around the entire home and any attachments, such as decks. Creating a non-combustible surface can be as easy clearing vegetation and combustible material down to mineral soil. To add to your landscape design, use non-combustible materials such as gravel, brick, or concrete in this critical area adjacent to your home. Woody shrubs, trees or tree branches should be avoided in this zone, any that are present should be properly mitigated.

Zone 1
(1.5-10 metres)

Create a landscape that will not easily transmit fire to the home. A FireSmart yard includes making smart choices for your plants, shrubs, grass and mulch. Selecting fire-resistant plants and materials can increase the likelihood of your home surviving a wildfire. Plant a low density of fire-resistant plants and shrubs. Avoid having any woody debris, including mulch, as it provides potential places for fires to start. Storing items such as firewood piles, construction materials, patio furniture, tools and decorative pieces against or near a house is a major fire hazard. Move firewood piles, trailers/ recreational vehicles, storage sheds and other combustible structures out of this zone and into Zone 2. If unable to move, store firewood inside your mitigated garage, shed or other ember resistant structures, create a non-combustible zone underneath and for 1.5 metres around trailers/ vehicles and mitigate sheds and other structures to the same standards as those of your home.

Zone 2
(10-30 metres)

If your property extends out to this zone, thin and prune evergreen trees to reduce hazard in this area. Within 30 metres of your home, selectively remove evergreen trees to create at least 3 metres of horizontal space between the single or grouped tree crowns and remove all branches to a height of 2 metres from the ground on the remaining evergreen trees. If possible, pruning trees up to 100 metres from your home (Zone 3) is recommended. Regularly clean up accumulations of fallen branches, dry grass and needles from on the ground to eliminate potential surface fuels. Consider seeking the guidance of a forest professional with wildland fire knowledge on appropriate management options for this zone.

Zone 3
(30-100 metres)

Taking FireSmart actions in Zone 3 on your property will influence how a wildfire approaches your home. You can change the dynamics of wildfire behaviour by managing vegetation within this zone. Look for opportunities to create a fire break by creating space between trees and other potentially flammable vegetation. Thinning and pruning is effective here as well. These actions will help reduce the intensity of a wildfire. Consider seeking the guidance of a forest professional with wildland fire knowledge on appropriate management options for this zone.

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Begins at Home


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