Institute for Catastrophic Loss Reduction

Building resilient communities

Designed for safer living®

Part of the
FireSmart
Protection Plan

PARTNERS IN PROTECTION

Government of Alberta

Alberta

Protect your home from

Wildfire

Designed for safer living® *is a program endorsed by Canada's insurers to promote disaster-resilient homes.*

About the Institute for Catastrophic Loss Reduction

The Institute for Catastrophic Loss Reduction (ICLR), established in 1997, is a world-class centre for multidisciplinary disaster prevention research and communication. ICLR is an independent, not-for-profit research institute founded by the insurance industry and affiliated with the University of Western Ontario.

The Institute's mission is to reduce the loss of life and property caused by severe weather and earthquakes through the identification and support of sustained actions that improve society's capacity to adapt to, anticipate, mitigate, withstand and recover from natural disasters.

ICLR's mandate is to confront the alarming increase in disaster losses caused by natural disasters and to work to reduce disaster deaths, injuries and property damage. Disaster damage has been doubling every five to seven years since the 1960s, an alarming trend.

The greatest tragedy is that many disaster losses are preventable. ICLR is committed to the development and communication of disaster prevention knowledge. This document identifies the steps you can take to better protect your home from wildfires.

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Wildfires

Fire is a natural process essential to maintain healthy forests. Wildland fires can also be a terrifying peril that threatens lives and property.

Wildfires burn on average 20,000 km^2 of forest each year in Canada. When these fires approach our communities they can force families to evacuate. In fighting these fires, firefighters are sometimes called upon to make decisions on which properties can be defended and which cannot.

Photo: Shutterstock

Over the last several centuries, large parts of Canada have burned repeatedly. 50 per cent of Canada's wildfires are caused by people. Most of the other half is caused by lightning strikes on dry forest. This is why the risk of wildfires is highest in the summer.

If you live in or near a forested area, you're living in an area often referred to as the wildland/urban interface and sooner or later you may have to contend with a wildfire. The risk of wildfires is increasing in many parts of Canada and your best protection against loss, damage or injury is prevention.

ICLR has partnered with the Government of Alberta to distribute the *FireSmart Home Owners Manual*. This material details the specific actions that Canadians should take in order to protect their homes from wildfires.

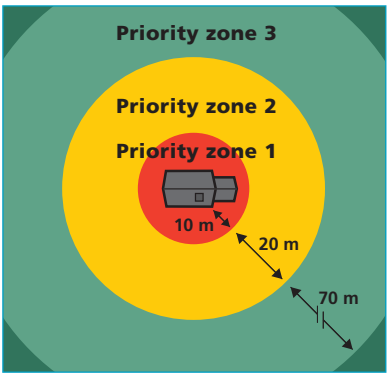
Get ready

Properly preparing your home and community doesn't completely guarantee you won't incur fire damage, but it does reduce the risk. Make sure you have adequate insurance on your home and property.

Some of the measures in this manual cost very little and help reduce your vulnerability to wildfire; others require planning and a long-term commitment.

Let's look at three areas where you can apply FireSmart principles to protect or reduce the damage to your property from a wildfire.

1. Site preparation



***Priority zones** surrounding an interface building or group of buildings.*

Any kind of vegetation is combustible.

Mature trees, shrubs, grass and even your woodpile can easily ignite and increase the chance of wildfire damaging your home and property. Managing the space around your home and buildings is of utmost importance.

Do you have a cleared zone around your house and buildings?

The 10-metre space immediately surrounding your home is Priority Zone 1. It's the most critical area to introduce FireSmart principles. A fuel-free space will give firefighters a chance to save your home from an advancing wildfire. A home without a fuel-free space can make firefighting difficult, if not impossible.

What to do?

Remove flammable trees and shrubs, such as pine, spruce and juniper. Other species such as aspen, poplar and birch have lower flammability rates. Also remove deadfall or woodpiles from this area. Keep your grass mowed and watered.

How FireSmart is your "Second Priority" zone?

The area extending from 10 to 30 metres away from your home is Priority Zone 2. In this zone, you need to reduce fuels by thinning and pruning trees so that intense wildfires don't have as much fuel to burn.

What to do?

Remove any trees and debris that would support the rapid spread of a wildfire. Make sure to thin or space trees so that the crowns (tops) of individual trees are at least 3 to 6 metres apart.

Remove tree branches up to 2 metres from the ground. Also remove thick shrubbery and deadfall to reduce the chance that a wildfire will climb up into the forest canopy. Once a wildfire is crowning, it's very difficult to stop.

Because fires spread more easily uphill and downwind it's important to extend Priority Zone 2 further on downhill slopes and on windward exposures.

Can you extend your FireSmart maintenance plan to the "Third Priority" zone?

Priority Zone 3 begins 30 metres from your home and extends to a distance of 100 metres and beyond. In this zone the objective is not to remove all combustible fuels from the forest, but to thin the area so fires will be low-intensity and more easily extinguished.

Low stand density where trees are widely spaced.

Tree crowns do not touch or overlap.

What to do?

Thin or reduce the shrubs and trees that make up the understory. Try to keep fire-resistant trees such as aspen, poplar and birch, while spacing more flammable trees so that each individual crown is at least 3 to 6 metres apart.

Lawn or non-combustible material
- within 10 metres of building (0 pts).
- within 10 to 30 metres of building (0 pts).

These are...

simple economical steps anyone can take to create a FireSmart home, community or business site. To ensure years of protection, make sure you maintain your FireSmart Priority Zones.

2. Building construction

The second set of FireSmart guidelines deals with building materials and design standards. While it may not be practical or economical to apply all of them to an existing structure, many FireSmart modifications are easily accomplished. Others can be included in long-term maintenance or renovation plans, and incorporated in new structures as they are designed and constructed.

Photo: Kelvin Hirsch

Metal, clay tile, asphalt shingles, or non-combustible material (0 pts) *– the most fire resistant and remain effective under severe fire exposure.*

Photo: Kelvin Hirsch

Unrated wood shakes (30 pts) *– provide no fire protection.*

Is your roof FireSmart?

The most fire-resistant roofing materials are metal, clay tile and asphalt shingles. Untreated wooden shakes and shingles provide no resistance. They are ideal fuels for an advancing wildfire.

Ensure your roof is free of combustible needles and leaves and there are no overhanging trees or branches that can provide fuel for airborne sparks and embers.

Are your exterior walls FireSmart?

Materials such as stucco, metal, brick and concrete offer superior resistance to wildfire. Logs and heavy timber are less effective, and wood and vinyl siding offer very little protection.

Photo: Kelvin Hirsch

Non-combustible siding (0 pts)
Materials such as stucco, metal siding, brick cement shingles, concrete block, poured concrete, and rock offer superior fire resistance.

Is the exterior of your home vulnerable to firebrand ignition?

If you are designing your home, eliminate areas where firebrands (airborne sparks and embers) could accumulate and ignite siding, windowsills or trim. Exterior siding should be fire-resistant and extend from ground level to the roofline.

Eaves and vents are ready-made openings that can allow heat and embers to enter a building and ignite. Ensure eaves are closed in and

Photo: Don Mortimer

Closed eaves, vents screened with 3-millimetre mesh and accessible (0 pts)

Photo: Don Mortimer

Closed eaves, vents not screened with 3-millimetre mesh (1 pt)

Photo: Don Mortimer

Open eaves, vents not screened (6 pts)

screen all vents and soffits. Keep areas under decks and porches clear of debris and sheath the undersides with fire-resistant material.

Photo: PELLA Windows

Tempered (0 pts) *– optimum protection is provided by tempered glass.*

Are your doors and windows FireSmart?

Be sure to remove flammable forest fuels within 10 metres of glazed window and door openings. Tempered, thermal or smaller double-pane windows will provide far greater protection than single pane glass.

Photo: Kelvin Hirsch

Single pane (2 or 4 pts)

Photo: Kelvin Hirsch

Double pane (1 or 2 pts) *– moderate protection is provided by double or thermal pane windows.*

3. Don’t be the cause of a wildfire

Wildfires often start as small accidental ignitions. You can help prevent an accidental wildfire from starting by using FireSmart standards around your property.

FireSmart your chimney

Chimneys should be constructed to meet current building code requirements and have approved spark arrestors installed.

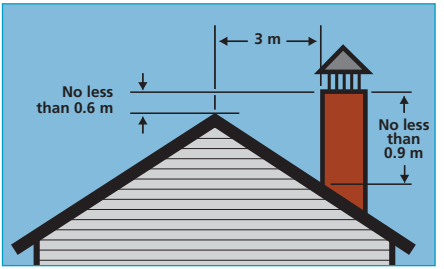


Illustration not to scale.

Burn barrels and fire pits

Burn barrels and fire pits should be located away from buildings and 3 metres away from other combustible material. Always ensure your burn barrel has proper ventilation and is covered with a screen. Never leave your burn barrel or fire pit unattended while it is in use. For a safer method of disposal bring your debris to a local landfill site.

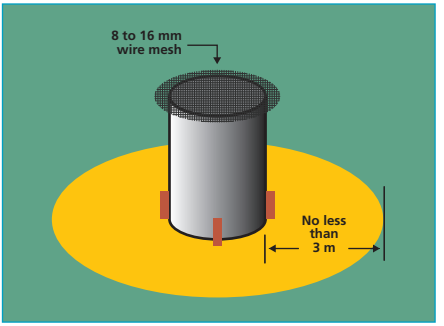


Illustration not to scale.

Power lines and propane tanks

Vegetation should be cleared away from power lines, propane tanks and other fuel supplies.

Emergency facilities

Ensure your property has adequate emergency vehicle access and an on-site emergency water supply, such as a pond, tank, creek or lake.

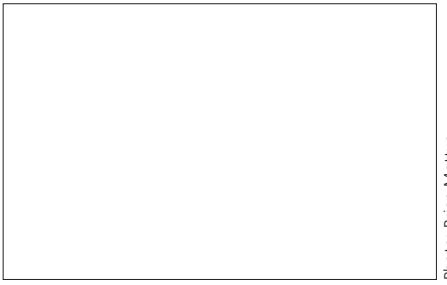


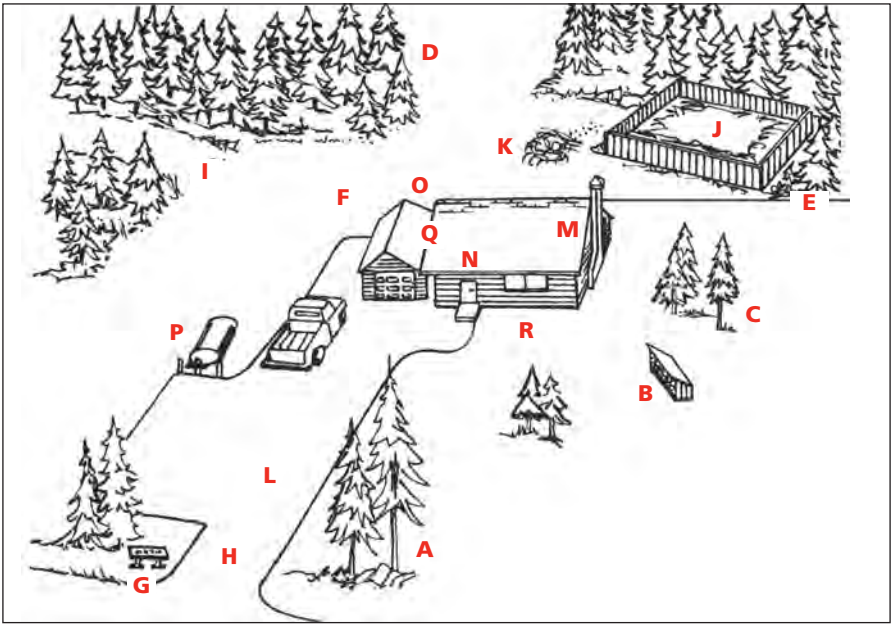
Photo: Brian Mottus

Contact utility companies for clearing of vegetation under overhead electrical installations.

On-site fire tools

Every home should have shovels, rakes, axes, garden hoses, sprinklers and ladders to assist in suppressing wildfires and protecting homes.

Well thought out FireSmart protection plan



A Prune tree branches to a height of 2 metres or more

B Store fire wood 10 metres or more from the house (avoid downslope location)

C Remove all trees, long grass, shrubs, logs, branches, twigs and needles within 10 metres of house

D Thin trees (with 3 to 6 metres between crowns) for at least 30 metres from the house

E Contact your utility company if trees or branches are not clear of power lines

F Grass within 10 metres of buildings should be mowed and watered

G Address, fire or lot number clearly signed for quick identification by fire service

H Driveway is wide enough to accommodate emergency vehicles

I Try to provide an alternate emergency access route to your property

J Pond or tank with emergency water supply

K A FireSmart burning barrel

L Driveway clear of trees to a distance of at least 3 or 4 metres

M Chimney installed to code complete with spark arrestor screens

N All eaves enclosed and screen all vents including soffits

O Undersides of balconies, decks and crawlspaces sheathed in with flame resistant materials

P Propane tanks located at least 10m from building -clear all vegetation within 3 metres

Q Use only fire retardant roofing rated Class A, B or C and fire resistant exterior siding

R Solid shutters or metal firescreens will provide increased fire protection for windows and doors

Do your own home and site hazard assessment

Assign yourself the indicated number of points for each assessment area. The fewer points you get, the more prepared your property is to successfully survive a wildfire.

If a question does not apply to your home, score 0.

Photo: CDF

Will your home survive a wildfire?

Home and site hazard assessment

Important factors	Characteristics of material	Point rating	Your score
What kind of roofing material do you have?	If you have asphalt shingles, metal, clay tile or ULC rated shakes	0	
	If you have unrated wooden shakes	30	
How clean is your roof?	No needles, leaves or other combustible materials	0	
	A scattering of needles and leaves	2	
	Clogged gutters and extensive leaf litter	3	
What is the exterior of your home built out of?	Non-combustable material, stucco, metal siding, brick	0	
	Logs or heavy timbers	1	
	Wood, vinyl siding or wood shakes	6	
Are your eaves and vents closed up and screened?	Closed eaves and vents with 3mm wire mesh	0	
	Closed eaves and vents with no mesh	1	
	Open eaves and open vents	6	
Have you screened in your balcony, deck or porch?	All decks, balconies and porches are screened or sheathed in with fire resistant material	0	
	All decks, balconies and porches are screened or sheathed in with combustible material	2	
	Decks, balconies and porches are not screened or sheathed in	6	
How fire resistant are your windows and doors?	Tempered glass in all doors/windows	0	
	Double pane glass: ▸ Small/Medium ▸ Large	 1 2	
	Single pane glass ▸ Small/Medium ▸ Large	 2 4	
Where is your woodpile located?	More than 10 metres from any building	0	
	Less than 10 metres from any building	6	
Is your home set back from the edge of a slope?	Building is located on the bottom or lower portion of a hill	0	
	Building located on the mid to upper portion or crest of a hill	6	

Important factors	Characteristics of material	Point rating	Your score
What type of forest surrounds your home, and how far away is it?	Deciduous trees (poplar, birch) within 10 metres of buildings	0	
	Deciduous trees 10 to 30 metres from buildings	0	
	Mixed wood (poplar, birch, spruce or pine) within 10 metres of buildings	30	
	Mixed wood 10 to 30 metres from buildings	2	
	Conifers (spruce, pine or fir) within 10 to 30 metres of buildings ▸ separated ▸ continuous	 10 30	
What kind of vegetation grows in the zone around your buildings?	Well watered lawn or non-combustible landscaping material	0	
	Uncut wild grass or shrubs ▸ within 10 metres of buildings ▸ within 10 to 30 metres of buildings	 30 5	
	Dead and down woody material within 10 metres of buildings ▸ scattered ▸ abundant	 30 30	
	Dead and down woody material within 10 to 30 metres of buildings ▸ scattered ▸ abundant	 5 30	
Are there abundant underbrush and ladder fuels in the surrounding forest?	Not within 10 to 30 metres	0	
	Scattered ▸ within 10 to 30 metres of buildings	 5	
	Abundant ▸ within 10 to 30 metres of buildings	 10	
	The wildfire hazard level for your home **Total score ▶**		

Low 21 or less, **Moderate** 21 to 29,
High 30 to 35, **Extreme** 35 or more.

Notes

Other FireSmart considerations

Important factors	Yes	No
Do you have adequate insurance on your home and property?		
Do you have the necessary fire suppression equipment (shovels, rakes, buckets, hoses, etc.) easily accessible?		
Are your burn barrels screened and at least 10 metres from combustibles and buildings?		
Are overhead powerlines clear of vegetation and at least a tree's height away from nearest forest?		
Are propane tanks clear of vegetation and at least 10 metres from dwellings and other buildings?		
Are emergency fire services within a 10 minute drive from your home?		
Is your chimney safe?		
Is your chimney clean?		
Does it have proper clearances and stack heights with proper screens and fire arrestors?		
Do you have good access to your property for emergency response vehicles?		
Is the area within 10 metres of your home and other buildings free of trees, flammable vegetation and other combustibles?		
Do you have an adequate municipal or on site water supply in case of fire?		
Does your family have an emergency fire and evacuation plan?		

Wildfire reporting hotline

Alberta
310-3473

Alberta Sustainable
Resource Development
Wildlife Management Branch

10th Floor, 9920-108 Street
Great West Life Building
Edmonton, AB T5K 2M4

British Columbia
1-800-663-5555 (*5555)
On cellular

Ministry of Natural
Resource Operations
Wildfire Management Branch

Coastal Fire Centre
665 Allsbrook Road
Parksville, BC V9P 2T3

Manitoba
1-800-782-0076

Manitoba Conservation

Headquarters Operations, Fire Program
Box 10, 200 Saulteaux Crescent
Winnipeg, MB R3J 3W3

New Brunswick
911

Department of Environment

Ancillary Building, P.O. Box 6000
Fredericton, NB E3B 5H1

Newfoundland
1-866-3473

Department of Natural Resources
P.O. Box 2006, Fortis Tower
Corner Brook, NL. A2H 6J8

Northwest Territories
1-877-698-3473

Government of the Northwest Territories
P.O. Box 7, 149 McDougal Road
Fort Smith, NT X0E 0P0

Nova Scotia
310-3423

P.O. Box 130
Shubenacadie
Hants Cove, NS B0N 2H0

Ontario
310-3473

Aviation, Forest Fire
and Emergency Services
Ministry of Natural Resources

70 Foster Drive, Suite 400
Sault Ste. Marie, ON P6A 6V5

Prince Edward island
911

Department of Environment, Energy
and Forestry
Forests, Fish & Wildlife Division

P.O. Box 2000, 183 Upton Road
Charlottetown, PE C1A 7N8

Québec / Sopfeu
1-800-463-3389

(Societe de protection
des forets contre le feu)

715, 7e rue de l'Aéroport
QC G2G 2S7

Saskatchewan
1-800-667-9660

Fire Management
and Forest Protection Branch

P.O. Box 3003, Hwy 2 North
Prince Albert, SK S6V 6G1

Yukon Territory
1-888-798-3473

Wildland Fire Management Protective
Services Branch

Government of Yukon
Whitehorse, YT Y1A 2C6

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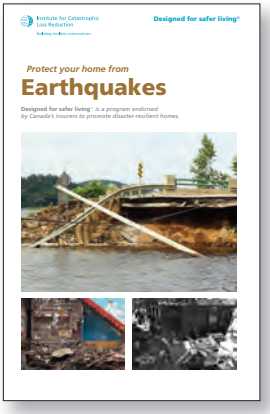

Natural Resources Canada Ressources naturelles Canada Canada

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