

THE HOME OWNERS

FireSmart Manual

Second Edition

Protect your home from wildfire

You and your neighbours can reduce the hazards of **Wildfire** by following these simple preventative steps.

Take the **FireSmart Assessment** test!

Is **your** home at risk?



The Department of Resources, Wildlife, and Economic Development – Forest Management Division would like to thank the following:

- *Partners in Protection* for providing the information used in this brochure,
- *Alberta Sustainable Development – Forest Protection* for allowing use of the Home Owners Manual, Second Edition as a model,
- The Department of Municipal and Community Affairs – Emergency Measures Organization and Office of the Fire Marshal for their support in producing this publication.

Photo Credits

Cover photos: Rick Lanoville (International Crown Fire Modelling Experiment)

Waiver

The Government of the Northwest Territories accepts no responsibility of liability for any loss or damage that any person may sustain as a result of the information in, or anything done or omitted pursuant to, this pamphlet.

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Forest Fires on Northern Landscapes

Forest fires have shaped the northern landscape since the last ice age, over 9 thousand years ago and will continue to be a significant agent of change in the forest ecosystem of the Northwest Territories.

The North experiences an annual average of 350¹ forest fires. Most of these fires are caused by lightning and occur for the most part in the boreal forest regions of the NWT.

The forests of the Northwest Territories are fire-dependant ecosystems requiring high intensity (crown) fires to regenerate. A crown fire generates and sustains a wall of flame extending from the ground to above the tops of trees and produces massive spotting, intense heat and a rapid rate of spread. Under these burning conditions, fire control efforts are virtually impossible until conditions improve.

If these fires occur near communities, the response may include activation of emergency services, including evacuations, and a prolonged and expensive suppression effort. Recent examples include fires at Tulita and Norman Wells (1995), Enterprise (1996), Ingraham Trail (1998), Edzo (1999), Norman Wells (2003) and Inuvik (2003).

The examples given above are of fires started from natural causes - lightning. Although these fires made headlines and focused attention on the protection of human life and property, they do not tell the full story of the bigger problem of people caused fires in the forested areas around communities in the NWT.

Community fire departments and firefighters employed by Resources, Wildlife and Economic Development (RWED) have extinguished many hundreds of fires over the past 20 years, within the corporate boundaries of northern communities. The forest fire problem within and adjacent to community boundaries is not simply one where an occasional fire may occur but one where many fires occur each season, a few of which may pose a serious threat to human life and property.

Living near or in a forested area necessitates having an awareness of the risks of the threat of wildfire. Following the NWT Fire Smart Home Owners manual can help to reduce that risk.

¹Reported to Resources, Wildlife and Economic Development, Forest Management Division



Get Ready

Properly preparing your home and community doesn't guarantee that you will not incur fire damage, but it does reduce the risks. Make sure your home is insured. Without it, you will suffer a loss.

Some of these preventative measures cost very little and reduce fire dangers by a great deal; others require planning and a long-term commitment to change.

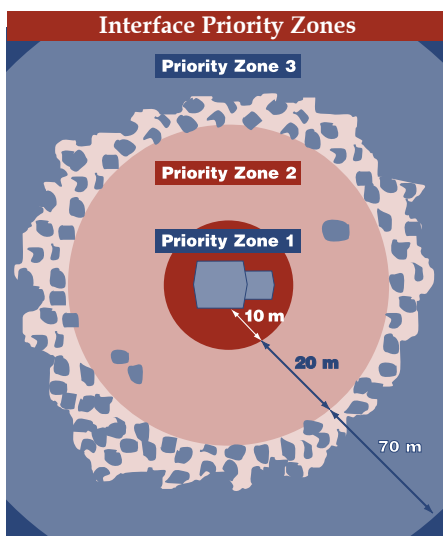
Let's look at three areas that, if properly managed, may reduce the damage to your property should a wildfire strike.

Site Preparation

Any kind of vegetation is combustible.

Mature trees, shrubs, grass, even your woodpile, are fuels to a wildfire. Their beauty and practicality vanish in an advancing blaze. Managing the space around your house and buildings is of prime importance.

This diagram shows the Priority Zones surrounding an interface building or group of buildings.



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

The first 10 metres of space around your home is your "First Priority". It's the most critical area to consider for fire protection. A good fuel free space gives your fire team a fighting chance to save your home from an advancing fire. A home without a good fuel free space around it can make firefighting difficult, if not impossible.

What to do?

Remove any shrubs, trees, deadfall or woodpiles from this area and keep your grass mowed and watered.

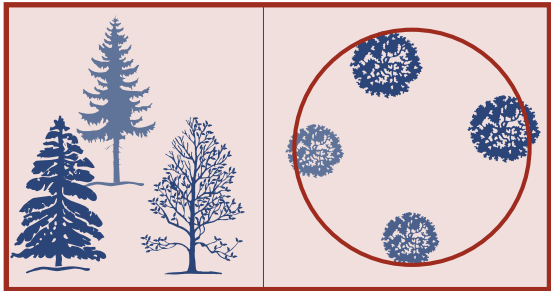
How FireSmart is your “Second Priority” zone?

From 10 to 30 metres out from your home is the second priority zone. In this zone, you need to reduce and manage potential fuel sources so that combustion cannot be supported.

What to do?

Remove trees and debris that would support the crowning of a spreading fire. The crowns of individual trees should not touch.

Remove or reduce the number of evergreen trees in the area. Evergreens such as pine and spruce are much more combustible than deciduous trees. In fact, aspen, poplar and birch all have very low flammability rates.



Low stand density where trees are widely spaced and crowns do not touch or overlap.

Remove deadfall, thick shrubbery and mature trees that might provide the opportunity for a ground fire to climb up into the forest canopy. Once a fire crowns out, it’s virtually unstoppable.

Because fires spread more easily up hill, it’s important to extend the second priority zone precautions further on downhill slopes and on windward exposures.

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

The third priority zone begins 30 metres from any structure and extends to a distance of 100 metres and beyond. The idea here is not to remove all combustible fuels from the forest, but to thin the area so fires will be of low intensity and more easily extinguished.

What to do?

Thin or reduce shrubs and trees that make up the under story, retain fire resistant deciduous trees, and manage the canopy to reduce the potential for a crowning fire.

These are...

simple economical steps anyone can take to create a FireSmart home, community or business site. For these actions to be effective, they must be maintained.



PHOTO: RICK ARTHUR

Lawn or non-combustible material

- within 10 metres of building (0 pts).
- within 10 - 30 metres of building (0 pts).

Home and business construction

Our second set of precautions deals with the building materials and construction techniques. While it may not be practical or economical to apply all of them to an existing structure, many of these precautions are easily made. Others can be included in long-term maintenance or renovation plans or incorporated in new dwellings as they are designed and constructed.

Is your roof FireSmart?

The most fire resistant roofing materials are metal, asphalt, and ULC treated shakes. Untreated wooden shakes and shingles provide no resistance. They are ideal fuels for a roaring wildfire.



PHOTO: KELVIN HIRSCH

Metal, tile, asphalt, ULC-rated treated shakes or non-combustible material (0 pts) - the most fire resistant and remain effective under severe fire exposure.

Even if your plans for re-roofing are years away, it's still valuable to ensure that your existing roof is free of combustible debris and that no combustible materials such as overhanging trees or vegetation provide fuel for airborne sparks and embers.



PHOTO: KELVIN HIRSCH

Unrated wood shakes (30 pts) - provide no fire 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.

Are your exterior walls FireSmart?

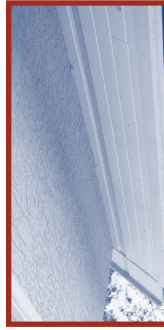
Materials such as stucco, metal, brick and concrete offer superior fire resistance to wildfire. Logs and heavy timbers are a little less effective, and wood and vinyl siding offer very little protection.

Is your home free of fire accumulators?

If you are designing your home, it's wise to reduce areas that offer protection or hiding places for airborne sparks and embers.

Closed-in eaves and screened soffits are better than those left open or unscreened. Decks and balconies that are not closed in and screened also pose potential hazards.

Fire suppression crews call all these open recesses fire accumulators. These areas increase the vulnerability of a structure to wildfire.



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



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



Open eaves, vents not screened (6 pts)

PHOTOS: DON MORTIMER

Are your doors and windows FireSmart?

Tempered glass has good resistance to damage by fire. Double or thermal pane window construction provides moderate protection, but single pane glass provides virtually no protection.



PHOTO: PELLA WINDOWS

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



PHOTO: KELVIN HIRSCH

Single pane (2 or 4 pts)



PHOTO: PELLA WINDOWS

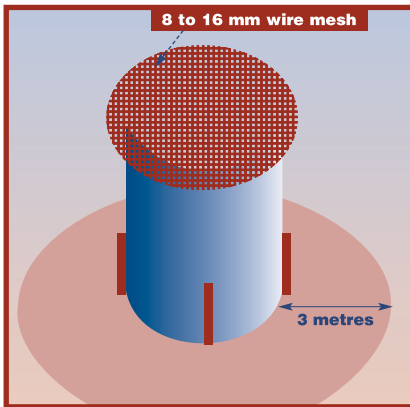
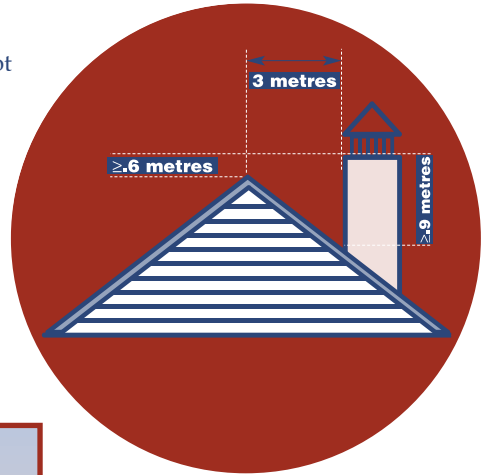
Double pane (1 or 2 pts) - moderate protection is provided by double or thermal pane windows.

Don't Be the Cause of a Wildfire

This set of objectives is aimed at not becoming the source of the fire.

FireSmart your chimney

Chimneys should be constructed to meet current Alberta building code requirements and should be screened-in with the appropriate approved spark arrestors.



Burn barrels and ash pits

Burn barrels should be well away from buildings and other combustible sources. Burn barrels should have proper ventilation, screens and should never be left burning unattended. For safer disposal, bring your debris to a landfill site.



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

PHOTO: BRIAN MOTTUS

Power lines and propane tanks

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

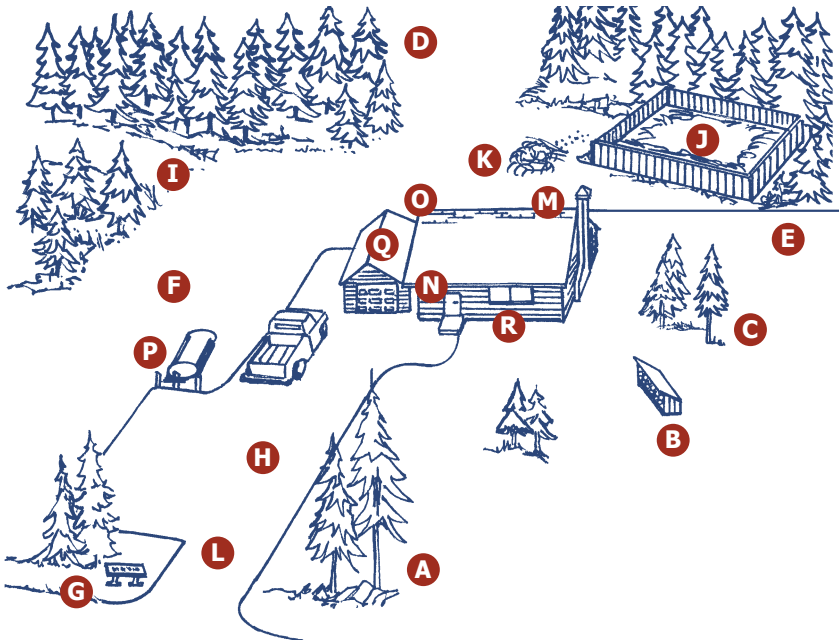
Emergency facilities

FireSmart building sites have adequate emergency vehicle access, and a readily available water supply such as a pond or dugout nearby.

Shovels and rakes

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

A Well Thought Out FireSmart Protection Plan



- A** Prune tree branches to a height of 1 or 2 metres
- B** Store fire wood well away from the house
- C** Remove trees within 10 metres of house
- D** Trees thinned (crowns don't touch) for at least 30 metres from the house
- E** Branches are clear of power lines (if possible bury power service)
- F** Remove brush, mow and water lawn
- G** Your name and lot number clearly visible for quick identification
- H** Driveway is wide enough to accommodate emergency vehicles
- I** Provide additional emergency exit
- J** Pond or cistern with emergency water supply
- K** A FireSmart ash pit or 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 soffit vents and gutters should be screened
- O** Porches and balconies screened, crawl spaces enclosed
- P** Position propane tank with valve pointing away from house
- Q** Fire resistant exterior roof and walls
- R** Protective drapes and or shutters on windows to protect interior from radiant heat

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 & Site Hazard Assessment

Important Factors	Characteristics of Material	Point Rating	Your Score
What kind of roofing material do you have?	If you have asphalt, metal, tile, 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-combustible 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 3 mm wire mesh	0	
	Closed eaves and vents with no mesh	1	
	Open eaves, 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 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	1	
	• Large	2	
Single pane glass:			
• Small/Medium	2		
• Large	4		
Where is your woodpile located?	More than 10 metres from any building	0	
	Between 3 and 10 metres from any building	3	
	Less than 3 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	

Home & Site Hazard Assessment

Important Factors	Potential Hazards	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 - 30 metres from buildings	0	
	Mixed wood (poplar, birch, spruce or pine) within 10 metres of buildings	30	
	Mixed wood 10 - 30 metres from buildings	3	
	Conifers (spruce, pine or fir) within 10 metres of buildings • separated • continuous	30 30	
	Conifers (spruce, pine or fir) within 10 - 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 - 30 metres of buildings	30 3	
	Dead and down woody material within 10 metres of building • separated • continuous	30 30	
	Dead and down woody material within 10 - 30 metres of buildings • scattered • abundant	3 30	
Are there abundant underbrush and ladder fuels in the surrounding forest?	None within 10 - 30 metres	0	
	Scattered • within 10 metres of buildings • within 10 - 30 metres of buildings	4 3	
	Abundant • within 10 metres of buildings • within 10 - 30 metres of buildings	10 7	
	The Wildfire Hazard Level for your home is:		Total Score

Low <21 points Moderate 21-29 points High 30-35 points Extreme >35 points

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 arresters?		
Do you have good emergency access to your property?		
Does your home and other buildings have a clear defensible zone of at least 10 metres on all sides of the structures?		
Do you have an adequate municipal or on site water supply in case of fire?		
Does your family have an emergency fire plan?		

Emergency Phone Numbers

Find and copy down the emergency numbers for your area and keep them in a visible area close to your telephone.

Fire Department _____

Police _____

Resources, Wildlife and Economic Development _____

To report a forest fire in the Northwest Territories call

1-800-661-0800

For more information about protecting your home and community from wildfire, order a copy of “FireSmart, Protecting your Community from Wildfire”. Copies available from:

**Forest Management Division
P.O. Box 7
Fort Smith, NWT
X0E 0R9**

For more information on forest fires in the NWT, visit the Forest Management website at <http://forestmanagement.rwed.gov.nt.ca>





SMOKE OR FIRE IN THE FOREST? 1-800-661-0800

