



FireSmart

PROTECTING YOUR HOME FROM WILDFIRE



Saskatchewan
Environment
and Resource
Management



SERM



Saskatchewan's Wildland/Urban Interface

Every year, communities and other structures are threatened or destroyed by wildfire. Evacuations of people threatened by fire or smoke is almost an annual occurrence. Unfortunately, living in the wildland/urban interface means living with fire.

People who live in a wildland/urban interface area are responsible for protecting their homes and property from the risk of wildfire. By doing this, municipal and provincial firefighters will have a better chance to prevent or reduce losses when a wildfire occurs.

The Wildfire Hazard Assessment System

The Wildfire Hazard Assessment System has two components. A Structure and Site Hazard Assessment Form helps you evaluate building and adjacent site characteristics up to 30 m from the structure. An Area Hazard Assessment Form assesses site characteristics greater than 30 m from the building itself (Priority Zone 3). Completing both portions of the Wildfire Hazard Assessment Form provides a complete assessment of the fire hazard a property is exposed to, from the perspective

of the general area, local site and the building itself.

The Area Hazard Assessment Form assesses five factors that influence potential fire behaviour. Each factor gets a point rating for the degree of fire

hazard it contributes. For each factor on the form, there is a choice of three point rating selections. To calculate the hazard level for the area, add the individual point rating scores for each factor. Use the rating scale at the bottom of the form to determine if your hazard is low, moderate, high or extreme.



Structure and Site Hazard Assessment Form

(Bold-faced number represents the hazard score)

	Fire Hazard Characteristics and Point Ratings	Score		
1	<p>Roofing Material: The roof is most important in determining whether or not an interface fire will consume the building. Use only fire-retardant roof covering assemblies rated Class A, B or C in interface areas. Roofing classifications denote the relative combustibility of the exterior roofing surface – Class A denotes lower combustibility; Class C denotes higher combustibility. Install roofing material to preclude entry of flames and embers. Enclose undersides of overhangs (soffits) built of combustible material with 12-mm non-flammable sheathing.</p>			
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; text-align: center;">Metal, tile asphalt, ULC-rated shakes or non-combustible material (0)</td> <td style="width: 50%; border: none; text-align: center;">Unrated wooden shakes (+30)</td> </tr> </table>	Metal, tile asphalt, ULC-rated shakes or non-combustible material (0)	Unrated wooden shakes (+30)	
Metal, tile asphalt, ULC-rated shakes or non-combustible material (0)	Unrated wooden shakes (+30)			
2	<p>Roof Cleanliness: Accumulation of combustible debris (leaves, needles) on a roof increases fire risk.</p>			
	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border: none; text-align: center;">No combustible material (0)</td> <td style="width: 33%; border: none; text-align: center;">Scattered combustible material, <1 cm in depth (+2)</td> <td style="width: 33%; border: none; text-align: center;">Clogged gutter, combustible material, >1 cm in depth (+3)</td> </tr> </table>	No combustible material (0)	Scattered combustible material, <1 cm in depth (+2)	Clogged gutter, combustible material, >1 cm in depth (+3)
No combustible material (0)	Scattered combustible material, <1 cm in depth (+2)	Clogged gutter, combustible material, >1 cm in depth (+3)		
3	<p>Building Exterior: With the exception of the roof, siding material is the structural component most vulnerable to fire. Where the siding material is combustible or melts, it becomes more critical to clear vegetation or other combustible material from the building exterior.</p>			
	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border: none; text-align: center;">Non-combustible stucco or metal siding (0)</td> <td style="width: 33%; border: none; text-align: center;">Log, heavy timbers (+1)</td> <td style="width: 33%; border: none; text-align: center;">Wood or vinyl siding or wood shake (+6)</td> </tr> </table>	Non-combustible stucco or metal siding (0)	Log, heavy timbers (+1)	Wood or vinyl siding or wood shake (+6)
Non-combustible stucco or metal siding (0)	Log, heavy timbers (+1)	Wood or vinyl siding or wood shake (+6)		
4	<p>Eaves, Vents and Openings: While vents perform the important function of removing trapped moisture from attics, soffits and crawlspaces, they also can allow heat and embers to enter a building and ignite it. Open eaves (exposed rafter ends unenclosed by fascia and soffits) increase structural fire hazard because more of the under-eave area is exposed to heat and embers. Under-eave soffit vents placed close to the exterior wall also increase structural fire hazard as heat and embers travel up exterior walls and directly into soffit vents. All openings should be properly located and screened with corrosion-resistant, 3-millimetre wire mesh.</p>			
	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border: none; text-align: center;">Closed eaves, vents screened with 3 mm mesh and accessible (0)</td> <td style="width: 33%; border: none; text-align: center;">Closed eaves, vents not screened with 3 mm mesh (+1)</td> <td style="width: 33%; border: none; text-align: center;">Open eaves, vents not screened, debris accumulation (+6)</td> </tr> </table>	Closed eaves, vents screened with 3 mm mesh and accessible (0)	Closed eaves, vents not screened with 3 mm mesh (+1)	Open eaves, vents not screened, debris accumulation (+6)
Closed eaves, vents screened with 3 mm mesh and accessible (0)	Closed eaves, vents not screened with 3 mm mesh (+1)	Open eaves, vents not screened, debris accumulation (+6)		
5	<p>Balcony, Deck or Porch: Outdoor living areas are important to the interface lifestyle. Some homeowners may be unwilling to eliminate the stilt construction and overhangs of decks and balconies, despite the fire hazard they create by trapping heat rising along the exterior siding. IMPORTANT NOTE: Decks and balconies are part of the building – measure the defensible space requirement of 20 metres starting from the outer perimeter of deck, balcony and overhang buildings.</p>			
	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border: none; text-align: center;">None, or fire resistant material sheathed in (0)</td> <td style="width: 33%; border: none; text-align: center;">Combustible material, sheathed in (+2)</td> <td style="width: 33%; border: none; text-align: center;">Combustible material, not sheathed in (+6)</td> </tr> </table>	None, or fire resistant material sheathed in (0)	Combustible material, sheathed in (+2)	Combustible material, not sheathed in (+6)
None, or fire resistant material sheathed in (0)	Combustible material, sheathed in (+2)	Combustible material, not sheathed in (+6)		
6	<p>Window and Door Glazing: Window glazing that fractures and collapses creates an opening in a building exterior that allows firebrands to enter the building so that it burns from the inside. Avoid having concentrations of vegetative fuels within 10 metres of windows and glass doors. Large windows, often used in interface homes to maximize view, are more vulnerable to fracture and collapse than smaller windows or multiple-pane windows. Triple or double (thermal) pane windows are more fracture- and collapse-resistant than are single pane windows. Tempered glass provides more safety than plate glass does. But it is unlikely that an interior will ignite from thermal radiation through intact plate glass.</p>			
	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border: none; text-align: center;">Tempered (0)</td> <td style="width: 33%; border: none; text-align: center;">Double Pane: Small/Medium (+1) Large (+2)</td> <td style="width: 33%; border: none; text-align: center;">Single Pane: Small/Medium (+2) Large (+4)</td> </tr> </table>	Tempered (0)	Double Pane: Small/Medium (+1) Large (+2)	Single Pane: Small/Medium (+2) Large (+4)
Tempered (0)	Double Pane: Small/Medium (+1) Large (+2)	Single Pane: Small/Medium (+2) Large (+4)		
7	<p>Location of Woodpiles and Combustibles: Firewood, building material or other combustible debris piles and wooden storage shacks are all serious fire hazards. Homeowners are urged to clean up or relocate such accumulations of fuel farther from the building. IMPORTANT NOTE: Any combustible building (garage, carport) or assembly (fence, trellis) should be included in the assessment of Factor 7.</p>			
	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border: none; text-align: center;">None or >10 metres from structure (0)</td> <td style="width: 33%; border: none; text-align: center;">3 – 10 metres from structures (+3)</td> <td style="width: 33%; border: none; text-align: center;"><3 metres from structures (+6)</td> </tr> </table>	None or >10 metres from structure (0)	3 – 10 metres from structures (+3)	<3 metres from structures (+6)
None or >10 metres from structure (0)	3 – 10 metres from structures (+3)	<3 metres from structures (+6)		
8	<p>Setback from Edge of Slope: The slope of the ground affects fire behaviour and the rate of spread. Fire will burn more rapidly uphill than on a flat or level surface. Structures located on a slope must feature entirely non-combustible exteriors and FireSmart design principles or they will be especially vulnerable to fire. Structures located at the crest of a hill can be protected somewhat by setback provisions.</p>			
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; text-align: center;">Adequate (0)</td> <td style="width: 50%; border: none; text-align: center;">Inadequate (+6)</td> </tr> </table>	Adequate (0)	Inadequate (+6)	
Adequate (0)	Inadequate (+6)			

9	Forest Vegetation (Overstory): Crown forest fires present a significant hazard to adjacent buildings. Buildings may ignite by radiant heat transfer when the fire is burning all around it, or when firebrands land on the building before the wildfire arrives. Crown fire is more likely to occur and spread rapidly in dense coniferous forests than in mixed-wood or deciduous forests.								
		Deciduous	Mixed wood	Coniferous					
				Separated	Continuous				
	<10 metres 10 – 30 metres	(+3) (+1)	(+10) (+5)	(+15) (+10)	(+20) (+15)				
10	Surface Vegetation: Surface vegetation includes grasses, herbs, shrubs, dead and down woody debris (logs, branches, and twigs), and immature trees up to 2.5 metres in height. Concentrations of surface fuels will sustain high-intensity surface fires and can initiate crown fires.								
		Lawn or noncombustible material	Wild grass or shrubs	Dead or Down Woody Material					
				Scattered	Abundant				
	<10 metres 10 – 30 metres	(0) (0)	(+5) (+3)	(+5) (+3)	(+15) (+10)				
11	Ladder Fuels: Ladder fuels are shrubs, immature trees and branches extending near the ground (e.g. within 2 m) that give surface fires a pathway to the upper canopies of the trees. Removal of ladder fuels reduces the likelihood of crown fire development.								
		Absent	Scattered	Abundant					
	<10 metres 10 – 30 metres	(0) (0)	(+5) (+3)	(10) (+5)					
Total Score for Factors 1 – 11									
Structure and Site Hazard Level									
<table border="1" style="width: 100%; background-color: #c00000; color: white;"> <tr> <td style="width: 25%;">HAZARD LEVEL</td> <td style="width: 25%;">Low <21 Points</td> <td style="width: 25%;">Moderate 21-29 Points</td> <td style="width: 25%;">High 30-35 Points</td> <td style="width: 25%;">Extreme >35 Points</td> </tr> </table>					HAZARD LEVEL	Low <21 Points	Moderate 21-29 Points	High 30-35 Points	Extreme >35 Points
HAZARD LEVEL	Low <21 Points	Moderate 21-29 Points	High 30-35 Points	Extreme >35 Points					

Area Hazard and Assessment Form

Fire Hazard Characteristics and Point Ratings					Score				
12	Forest Vegetation (Overstory)								
	Deciduous	Mixed wood	Coniferous						
			Separated	Continuous					
	(+3)	(+10)	(+15)	(+20)					
13	Surface Vegetation								
	Lawn or non-combustible material	Wild grass or shrubs	Dead & down woody material						
			Scattered	Abundant					
	(0)	(+5)	(+5)	(+15)					
14	Ladder Fuels								
	Absent	Scattered	Continuous						
	(0)	(+5)	(10)						
15	Slope: Slope has a direct effect on fire's rate of spread: the steeper the slope, the faster the rate of spread. Even slopes have a smooth or rolling texture. Gullied slopes have cuts running up the slope, usually from water erosion, that provide funnels for upslope wind-driven fire spread.								
	0 – 10%	10 – 25%		> 25%					
		Even	Gullied	Even	Gullied				
		(0)	(+4)	(+5)	(+8)	(+10)			
16	Position of Slope: The location of the zone or site on the slope will affect the fire hazard levels. In general, locations higher up on the slopes with fuels below face a significantly higher fire hazard from rapid, high-intensity fire spread up the slope.								
	Valley bottom or lower slope	Mid-slope	Upper-slope						
	(0)	(+3)	(5)						
Total Score for Factors 12 – 16									
Structure and Site Hazard Level									
<table border="1" style="width: 100%; background-color: #c00000; color: white;"> <tr> <td style="width: 25%;">HAZARD LEVEL</td> <td style="width: 25%;">Low <21 Points</td> <td style="width: 25%;">Moderate 21-29 Points</td> <td style="width: 25%;">High 30-35 Points</td> <td style="width: 25%;">Extreme >35 Points</td> </tr> </table>					HAZARD LEVEL	Low <21 Points	Moderate 21-29 Points	High 30-35 Points	Extreme >35 Points
HAZARD LEVEL	Low <21 Points	Moderate 21-29 Points	High 30-35 Points	Extreme >35 Points					

Interface Fire Emergency Planning

An emergency fire plan will reduce the risk to life and property in the event of a wildfire. Municipalities are required by law under the *Emergency Planning Act* to establish emergency plans, but emergency planning should not be limited to municipalities. In order to be better prepared for a wildfire emergency, it is critical for individual home owners, commercial outfitting lodges and industrial sites to develop plans that focus on preparing for a fire threat.



One of the first steps in ensuring that fire emergency concerns are adequately addressed is to quantify the interface

fire concerns in and near your property or home. The hazard assessment forms found within this handout on pages three and four will help determine your current level of risk and identify where hazards exist. Using this information, you can take steps to reduce these hazards. Points to consider when developing an emergency plan include:

- emergency warning system
- evacuation routes determined and everyone is aware of them
- transportation requirements
- location of pick-up points, meeting areas and evacuation centres
- list of items you want to take with you
- know power and gas shut off procedures
- emergency contact list
- determine who is responsible for key areas
- pet and livestock care
- fire insurance

Fire Prevention Checklist

1 Create a safety zone around your home. Reduce the forest density by thinning and pruning vegetation within 10 metres of your home. Trees should be thinned so there is at least four metres between the branches of one tree to the next. Branches should also be pruned to a height of three metres from the ground. All surface litter should be cleaned up within this area. This will help prevent a high intensity fire from reaching your home.

2 Ensure you have a firewise roof. Roofs are the parts of a home most vulnerable to fire. Wind-driven burning embers land on the roof well in advance of a fire. Make sure your roof is clean of all debris and shingles are made of a fire-resistant material. A cedar shake roof with pine needles on it is like having a stack of dry kindling on your roof. Eave troughs full of leaves and other debris should be regularly cleaned.

3 Make sure you have the basic fire suppression tools on hand. Interface fires often start as small accidents. Timely action by properly equipped residents can make the difference between a fire that escapes or is quickly controlled. A round-point shovel and a grubbing tool should be accessible from outside the home. A connected garden hose that is long enough to reach around all buildings and onto the roof will help the homeowner protect the house. A 205-litre (45 gal.) water container with a 10 litre (two gal.) pail should also be available. A ladder to access the roof and a sprinkler are useful for wetting down the roof if a forest fire is advancing on the home.

4 Check your roads and driveways. Can you get out quickly and can emergency vehicles get into your home? Is your driveway properly signed to help firefighters find your home? Access roads should be 7.5 metres wide by 4.5 metres high to ensure access by firefighters. If your home is more than 45 metres off the road, an alternate access should be built. Should your main access become blocked, this will give you more than one way of getting out.

5 Identify possible ignition sources and develop a FireSmart plan. Chimneys should have a spark arrester cap and extend 0.6 metres above the peak of the roof. Chimneys should be at least three metres from any vegetation. Burning barrels and fire pits should be properly constructed and screened. Refer to the next page for proper burning barrel and fire pit design. Check your power lines for branches or trees that may fall on the lines and call the power company to remove any problem branches.

6 Develop a wildfire safety plan. Take the lead role in developing a plan for your own property and for your community. Work with your neighbors to create a FireSmart community.

7 Get more information. Call your local municipal fire department or contact the nearest SERM Forest Protection Area office. They can supply you with more information about lowering risks to your property and how to be better prepared for when a fire does occur.



Burning Barrels and Fire Pits

Burning barrels and fire pits should be screened with a mesh size between 8 to 16 mm wide to prevent embers from escaping and igniting a new fire. Barrels should be wired to metal stakes to prevent them from being blown or tipped over. Fire pits should be less than 1 metre in width.

A proper burning barrel or fire pit should be:

- located at least three metres from any log, stump, snag or standing tree
- located at least 15 metres from any flammable building, slash or flammable debris
- surrounded by a metre-wide mineral soil strip with all leaves, twigs and other flammable materials removed.

FACT: Burning barrels and fire pits are the cause of many wildland urban interface fires. By following these simple guidelines, you can help to reduce them.



ABOVE ARE TYPICAL EXAMPLES OF A BURNING BARREL AND A FIRE PIT THAT ARE LIKELY TO CAUSE A WILDLAND/URBAN INTERFACE FIRE. BURNING RECEPTACLES SHOULD BE CONSTRUCTED IN A WAY THAT WILL NOT ALLOW YOUR FIRE TO ESCAPE.

Community Protection

Managing forest fuels around communities is an effective way to reduce the risk from wildfire. In most cases, provincial and local fire departments will be able to control a wild fire. However, when conditions are right, a small smoke can quickly turn into a fast moving grass fire or move into the treetops. By removing high hazard fuels next to the community, fires lose intensity and give suppression crews a better chance to control the blaze.



ABOVE ARE TWO EXAMPLES WITHIN MEADOW LAKE PROVINCIAL PARK WHERE FOREST FUELS HAVE BEEN THINNED IN ORDER TO HELP PROTECT COMMUNITIES.

To Report a Wildfire, call 1-800-667-9660

For More Information Regarding:

- details about how you can protect your home and property
- information on FireSmart construction for developers and homeowners
- home and community fuel management options
- home and community risk assessments
- wildfire training

Contact your local SERM Forest Protection Officer or the Provincial Education and Prevention Coordinator at: 1-306-953-3245

Or visit our web site at: www.serm.gov.sk.ca/forests/fire/