



MITIGATING WILDLAND FIRE RISK

A guide adapted from the FireSmart Begins at Home Manual and the Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry's Wildland Fire Risk Assessment and Mitigation Reference Manual



WHAT IS WILDLAND FIRE?

Wildland fire, also called wildfire or forest fire, is defined by the Ministry of Northern Development, Mines, Natural Resources and Forestry as any fire burning forested areas or grasslands. Wildland fires are the result of a chemical reaction, involving heat, oxygen, and fuel (also known as the Fire Triangle). Wildland fires are capable of spreading at a staggering rate - if the right combination of vegetation, topography, and weather is present, they can spread through the crowns of trees at up to 15 kilometers per hour!

Wildland fire is a natural process that plays a critical role in the forest regeneration process, and areas that have experienced wildland fire in the past will likely do so again. When human activities or development are introduced into forested areas, natural causes of wildland fire, such as lightning, present an increased threat to life and property. Human activities and development also lead to non-natural causes of wildland fire, such as damaged power lines, recreational burning, and industrial activities. Today, 90% of all wildfires that start within 3 kilometers of communities are attributed to human activity.

Why is Mitigating Wildland Fire Risks Important?

When we extend our lifestyles and communities further into forested areas, we become more exposed to the dangers of wildfire. Sometimes, families must be evacuated from their communities, and homes and cottages could be destroyed.

- In Canada, wildland fires **are the second most frequent type of reported natural disaster**, next to flooding.
- On average, **over 1,200 wildfires are started in Ontario each year**, consuming over 200,000 hectares of forested land annually.
- Projections indicate that total fires in Ontario could increase by **15% by 2040, and by 50% by 2100**
- **Appropriately managing wildland fire** requires balancing its natural role with the protection of human life, property and economic values.

Living where wildfires can occur puts your home at risk, but with appropriate measures in place, it is possible to live safely with this natural event. The best protection against loss, damage, or injury due to wildfire is prevention, but there are things you can do to reduce the risk of loss or damage to your property in the event of a wildfire. Measures that protect your home from wildland fires can also reduce the damage of a household fire if one were to occur.

Wildland fire mitigation techniques are designed to disrupt the combustion process by eliminating two of the three components of the Fire Triangle. They do so in three ways: (1) by minimizing the opportunity of new fires from embers; (2) by reducing the potential for direct flame contact from approaching wildland fires; and (3) by reducing the effects of radiant heat from an approaching wildland fire. Mitigation techniques (see next page) can be incorporated into building, site, and/or neighborhood design, which is why wildland fire risk mitigation is part of the land use planning process.

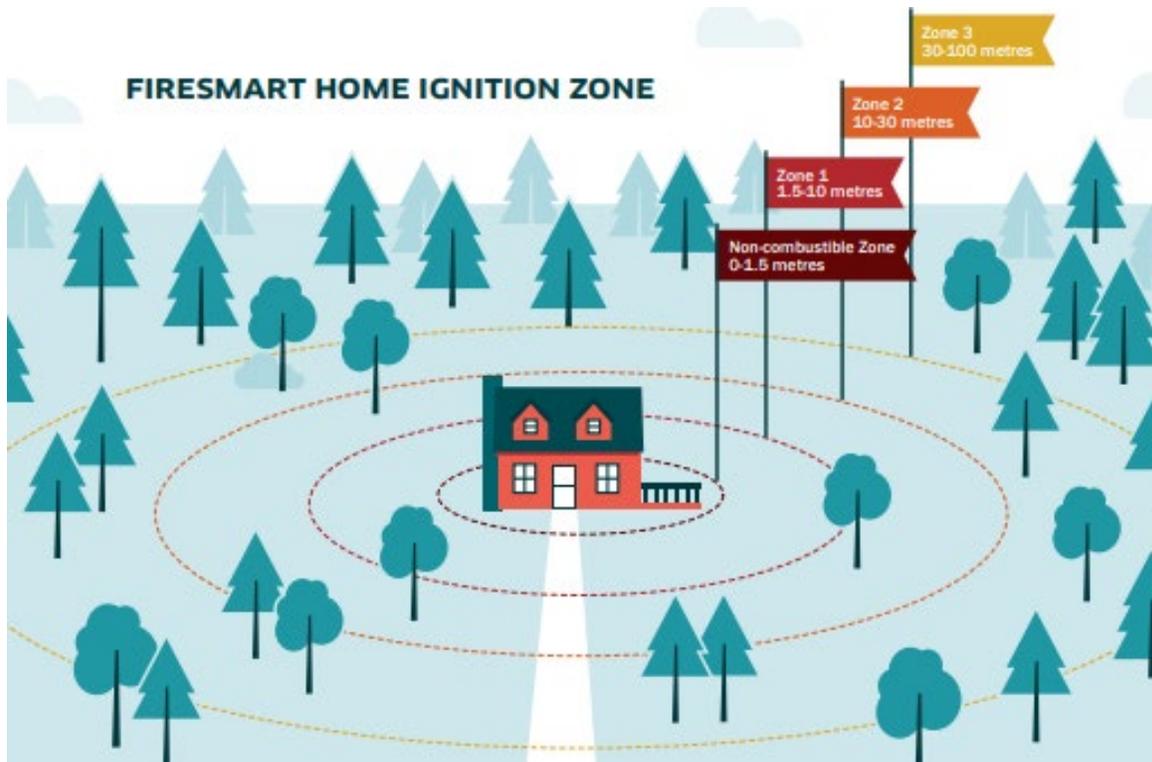
How are We Mitigating Risks in Renfrew County?

The County of Renfrew's Official Plan is a land use planning document that guides growth and development across the County. It sets out policies that aim to enhance the quality of the natural, built, and human environments in the County, and to help the communities in the County adapt and respond to a range of social, economic and environmental changes, including the increased risks of wildland fires (see section 2.2(8)(d) of the Official Plan).

Hazardous forest types for Wildland Fire have been mapped across the County, and can be found on Schedule B – Map 1 of the Official Plan. When development is proposed in an area on this map with a high to extreme risk for wildland fire, the applicant is required to fill out a Wildland Fire Risk and Hazard Assessment Form, which evaluates risks and identifies measures to mitigate risks, based on the site conditions. This applies to applications for severances, plans of subdivisions or condominiums, and any other proposal requiring approval under the Planning Act.

MITGATING WILDLAND FIRE RISKS

FireSmart Canada and the Ministry of Northern Development, Mines, Natural Resources & Forestry use the **Home Ignition Zone** approach to identify risks and mitigation techniques based on the distance to your home (or building structure).



Non-Combustible Zone / Home: 0 - 1.5 meters

A non-combustible zone should extend 0 - 1.5 meters around the home or structure (including decks, porches, etc.) and any outbuildings (sheds, garage, etc). Shrubs, trees, and tree branches should be avoided in this zone. Use fire-resistant building materials for your roof and the building's exterior, and install non-combustible material for roof vents. Regularly clean your roof and gutters from combustible materials and debris. If the property is on a hill or slope, consider building the home/structure so that it is set back at least 10 meters from the crest of the slope, as fire moves and spreads rapidly uphill.

Zone 1 / Yard: 1.5 - 10 meters

This is the zone with the highest impact. Regular maintenance and cleaning in the corners and crevices of the home and yard where needles and debris build up will leave nothing for embers to ignite. Maintenance includes removing windblown leaves under the deck and flammable debris from balconies and patios, and thinning or pruning shrubs and trees and regularly removing deadfall. When landscaping within 10 meters, plant a low density of fire-resistant plants and shrubs, keep grass mowed and watered, and avoid woody debris such as mulch. Do not keep a woodpile in this area.

Zone 2 / Yard: 10 - 30 meters

Reducing and managing potential fuel sources in this zone will reduce the likelihood of combustion and reduce fire intensity if a fire were to occur. Thin trees so that the crowns of individual trees do not touch, and remove dead woody debris. Evergreens such as pine and spruce are much more combustible than deciduous trees such as aspen, poplar, and birch.

Zone 3 / Yard: 30 - 100 meters

In this zone, the idea is not to remove all combustible fuels from the forest, but to thin the area to reduce fire intensity and make a fire more easily extinguished. Thin or remove 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.

YOUR PLANNING APPLICATION

If you are submitting a planning application in an area identified with a wildland fire risk, please complete and include the *Wildland Fire Risk and Hazard Assessment Form*, which is available on the County of Renfrew website.

The hazard assessment form is designed to assess the wildland fire risk for your planned development. When filling out the form for your proposal, assume that a building has been constructed on the site.

The assessment form has two parts. The first evaluates the surrounding forest and surface vegetation present, and the second evaluates the site layout and structural components of the future building. Add the scores of both parts together to get your total Wildland Fire Hazard score. If your total score indicates a high to extreme risk, consider how the vegetation can be better managed on site, or what modifications could be made to the site layout or building.

ADDITIONAL RESOURCES

This guide has been adapted from the following resources, which provide additional information and guidance on wildland fire causes, risks, provincial policies, and mitigation techniques:

- [FireSmart Begins at Home Manual](#), Fire Smart Canada
- [Wildand Fire Risk Assessment and Mitigation Reference Manual](#), Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry
- [The Home Owner's FireSmart Manual: Protect Your Home from Wildfire](#), Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry



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