This guide applies to neighborhoods in or near the bush.

**PLANNING FIRE RESILIENT COMMUNITIES**

**PLAN AHEAD - PLAN TOGETHER**

**BUILDING PRACTICES: RISK FACTORS**
- Evergreen tree growing next to building
- Fuel stored next to building
- Deck can easily catch fire
- Roof covered in pine needles and dead branches
- Roof built out of flammable material
- Unsafe chimney risks catching the roof on fire
- Fire pit next to building

**REMEMBER!**
A FIRE RESILIENT ROOF MAKES THE BIGGEST DIFFERENCE

**FIRE FIGHTING**
- Train community members in wild and urban fire fighting
- Keep their training up to date

**WATER ACCESS**
- Know the nearest water source
- Ensure there is water access even when lakes and rivers are frozen

**FIRE RESILIENT PLAN**
- Follow FireSmart™ practices
- Encourage building with fire resilient materials
- Remove flammable materials around buildings

**COMMUNITY EVACUATION**
- Create a community evacuation plan
- Ensure everyone has a safe way out
- Communicate the plan

**URBAN PLANNING**
- Build buildings apart from each other so that fire spreads less easily
- Build fire breaks

**HEAT FROM FIRES CAN DAMAGE BUILDINGS IN MANY WAYS**

**CONDUCTION**
Transfer of heat through solid matter
Embers can travel hundreds of metres and cause damage

**CONVECTION**
Transfer of heat by the movement of hot air
Buildings downwind of a fire can be damaged from convective heat 20 metres away

**RADIATION**
Heat that travels outwards in straight lines
Radiated heat can damage buildings 10 metres away

**ZONE 1**
Non-combustible zone

**ZONE 2**
Remove all flammable materials
Replace evergreen trees with less flammable plants like birch and willow
Reduce the layer of leaves and needles to 30 cm or less
Reduce fuels such as dead branches, shrubs, and logs

**ZONE 3**
Remove trees to give at least 3 m of space between evergreen trees
Remove fuels such as dead branches, shrubs, and logs
Prune 2 m of ladder fuels off of tall trees
Remove trees to give at least 3 m of space between evergreen trees

**NON-COMBUSTIBLE ZONE**
1.5 m

**ZONE 1**
10 m

**ZONE 2**
30-100 m

**ZONE 3**

**USE THESE FRESMART™ ZONES TO PROTECT BUILDINGS AND HOMES NEAR THE BUSH!**

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**Ecology North**
MORE FIRES, MORE SEVERE
Climate change has increased the chance of wildfire

HOW FIRES SPREAD
Understand the nature of fires
From spread factors in hot and windy conditions, when moving readily, and when in dry sunny environments.

Surface fuels are anything that burns on or near to the ground. For example, plants, leaves, brush, dry grasses, changes, needles, etc.

Ladder fuels allow fire to move from the ground into the trees. For example, tall chucks, small trees, free briers, back fences, etc.

Embers are pieces of burning wood or fuel that can travel a long way from a fire and start a new one. They can travel up to 500m with a strong wind.

BUILD RESILIENCE
Adapt buildings and the land around them to reduce the risk of wildfire
It is crucial for northerners to plan and design fire resilient buildings and communities, as most of the north has limited firefighting resources and capacity.

The focus is on fuel source low fuel available and use construction materials that dont burn well.

CONSIDER FIRE RESILIENCE FOR:
* Building materials
* Building location
* Landscaping
* Community planning

BUILDING MATERIALS
Roofing choosing ventilation
The roof is the most important part of a building to make fire safe. Embers from a fire or sparks from a chimney can land on the roof and start a fire if the roof is not fire safe.

Recommended roofing materials are concrete, metal, or fiberglass asphalt shingles with felt underlay.

Fire safety guidelines
Store all fuel (wooden, paper, propane, etc) at least 10m away from a building.

Surround a firepit with at least 5m of non-burning material like bare soil, rock, concrete. Limit flying embers with a metal mesh screen over the firepit.

Inside a garage or shed, store flammable things away from any heat sources.

LOCATION & LANDSCAPING
Clear away brush and flammable materials from around buildings
The most at-risk buildings are those built next to or in the bush. The forested area up to 100m out from a building should be looked at for safety.

For a fire-resistant landscape, use these guidelines:

- Change within 10m of a building have the most impact to reduce risk of wildfire.
- 0 – 1.5m out from a building
  * Remove all fuels from the area
- 1.5 – 3.0m out from a building
  * Remove surface and ladder fuels
  * Plant fire-resistant plants, like willow and birch
  * Leave 3m of space around every tree
  * Reduce the amount of dried needles and leaves on the ground

PREVENTION IS KEY
Prepare for and respond to fire

CREATE A FIRE RESILIENCE PLAN
* Build a planning team
* Gather information to assess the risk
* Set goals to reduce the risk
* Share the plan and educate others
* Define options to respond to wildfires
* Offer training for fighting wild and urban fires
* Update and review the plan every year

FIRE SUPPRESSION
Sprinkler systems prevent the spread of fire by wetting and cooling material, making it flammable. Sprinklers are not usually effective at putting out fires.

Foam fire suppressants are effective at preventing fire spread and can be set up to spray automatically. Use a firehose – a wide strip of land with little vegetation (like a river or a road), meaning less fuel for a fire.

PUTTING OUT FIRES
Know where the nearest source of water is, and how to access it

COMMON WATER SOURCES
* Fire hydrant or utilidoor
* Nearby water body
* Water truck

OTHER WATER SOURCES
* A dry hydrant is a pipe that goes into the bottom of a nearby lake or river. If the hydrant chugs uncontrollably in winter, there is year-round water.
* A well hydrant is a valve that brings water from inside a building to the outside. A building with a well hydrant and a large water tank could be used as an emergency.

ECOLOGY NORTH
Ecology North is a charitable organization, founded in 1971 to support sound environmental decision-making on an individual, community, and regional level.

Contact us or visit our website for information and other guides in this series.

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