





The Aftermath of a Wildfire



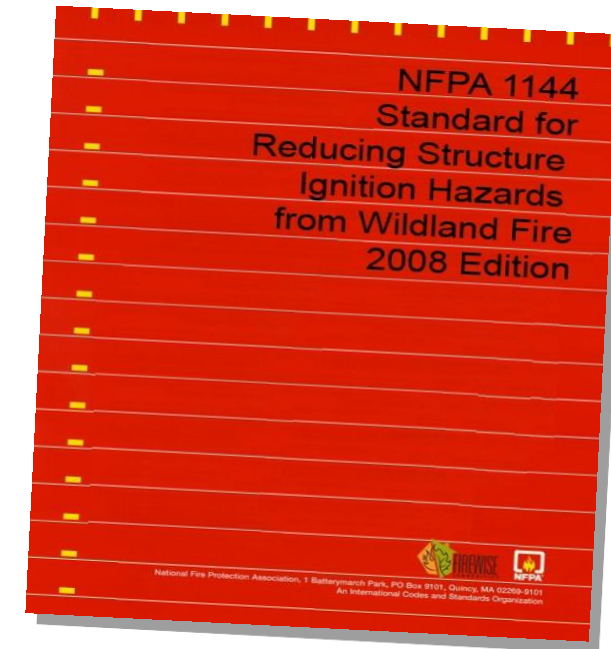
FireSmart Communities

Training Workshop



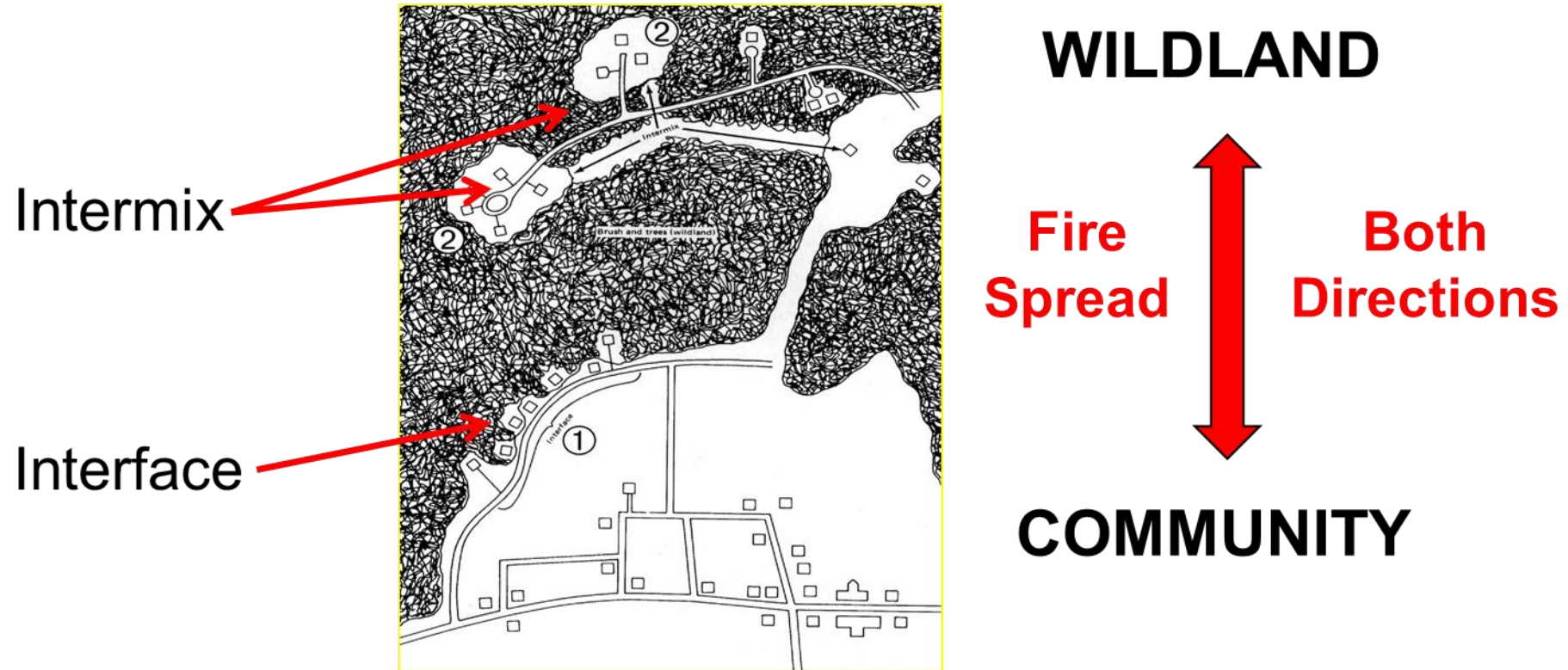
What is the Wildland/Urban Interface?

The presence of structures in locations in which... conditions result in the potential for ignition of structures from flames and firebrands of a wildland fire.



Where is the WUI?

Where the forest meets the community:



What is a WUI Fire?

-is where the fuel being consumed by a wildfire...



...changes from wildland fuel to urban fuel...



WUI fire occurs when wildland fire embers or flames contact the ignitable parts of a structure.

What Extent is WUI fire a Canadian Issue?

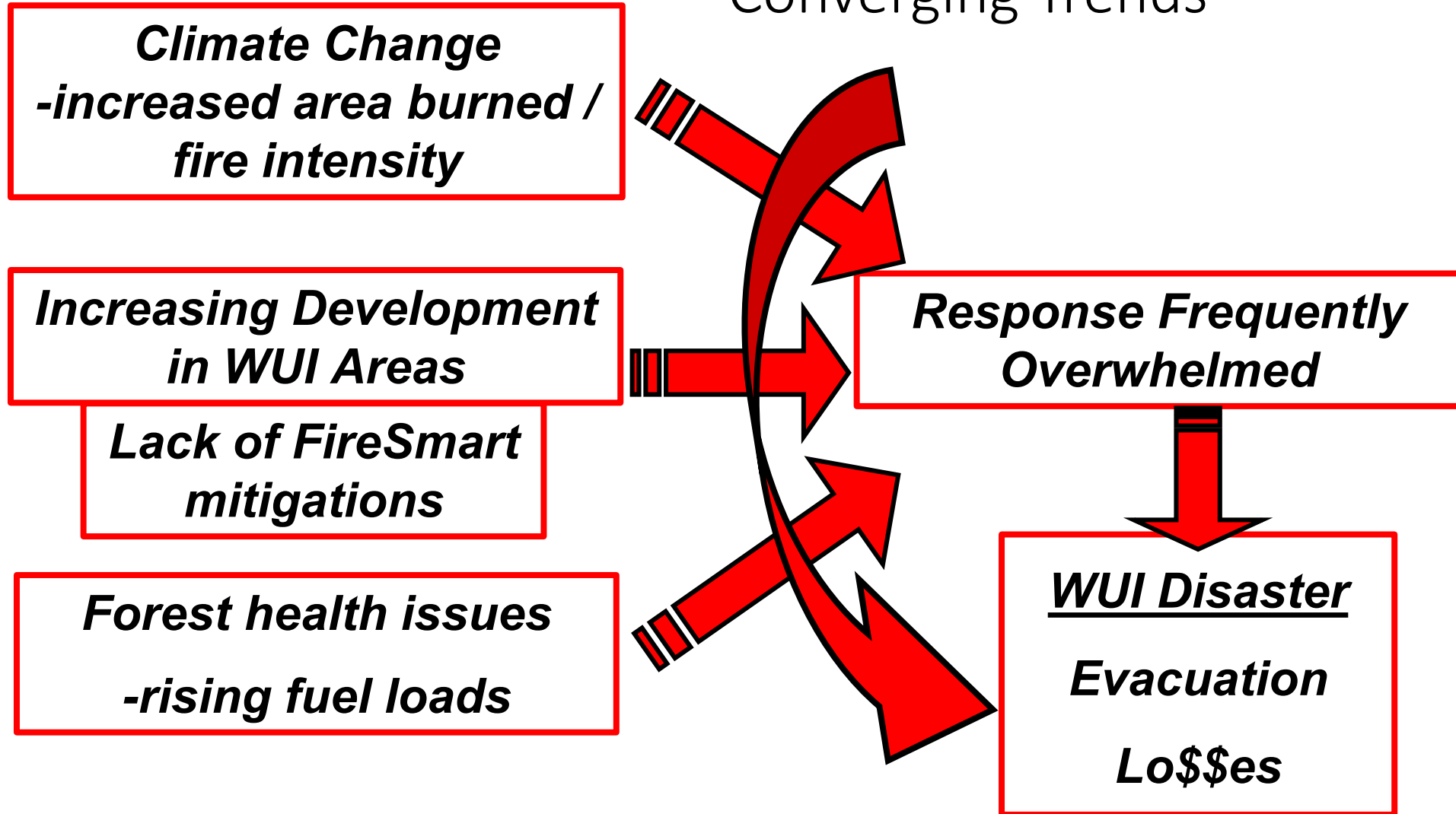
- 1995 - 2007: 700,000 people/250 communities evacuated.
- 2003: B. C., 100+ WUI fires - 50,000+ evacuated.
- 2011: Slave Lake, AB, ~ \$700M in losses.
- 2012: Timmins, ON. Potential evac of 43,000 people

2016: Fort McMurray. 9.9 Billion dollar loss. 80,000 people

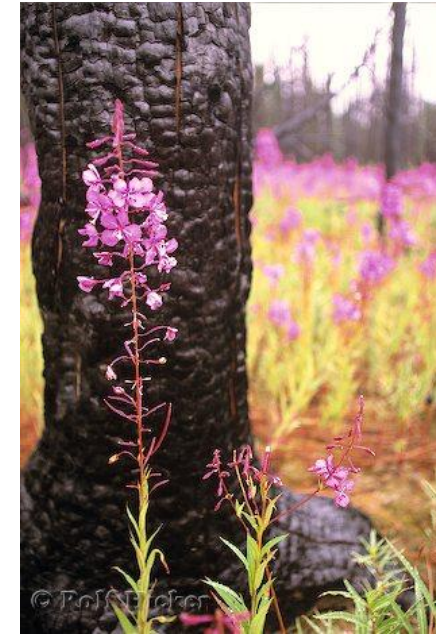
2018: Parry Sound 33. 12,300 Hectares .18 Buildings lost,
578 people evacuated



Converging Trends



Wildland Fire: An Essential Natural Event



Wildland fire plays a key role in renewal of forests and grasslands... and in reducing fuel loads that feed wildfires. Many benefits derive from ecosystems sustained by fire.



Fire suppression organizations
cannot stop losses from large
wildfires



...and more
fire trucks are
NOT the
answer.



It is important to understand how fire behaves.

Fire doesn't spread like a flood, landslide or
avalanche, as a destructive mass swallowing homes
in its path.

Important Research Conclusions

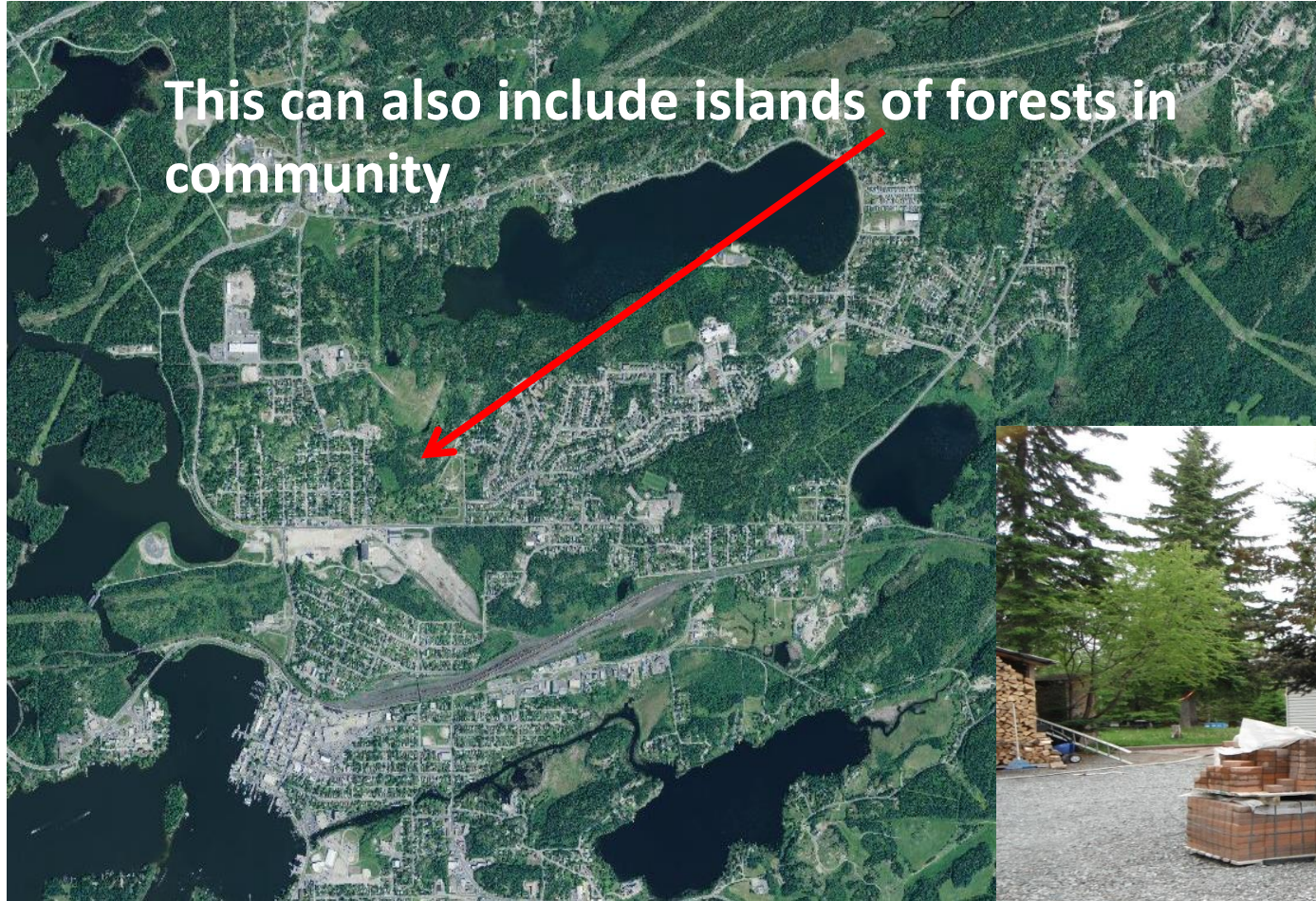


Firebrands (embers)
originating kilometres
away, can result in
ignition of a structure

More than 50% of homes destroyed by
wildfires are ignited by embers.



Embers are easily lofted deep into a community and if untreated forest islands exist, then wildland fires can start in areas where we aren't looking for them.



Satellite Photo of Parry Sound 33: Fire 2018

The Key river did not act as a fire break



George Island

The Channel also may not act as a fire break and protect the Village





However, fire ONLY spreads into locations with fuels that support combustion, including homes and cottages.

The issue is how vulnerable a structure is
to ignition from a wildland fire!

If homes don't ignite...
...homes don't burn...



FireSmart

Research proves communities
CAN protect their properties.

Mitigation work prepares a
community.



FS Hazard Assessment Forms

FireSmart Wildfire Hazard Assessment System Structure & Site Hazard Assessment Form

- Hazard Assessment Forms
- Fire Ignition and Prevention Checklists
- Using Wildfire Hazard Assessment Forms

STRUCTURE AND SITE HAZARD ASSESSMENT FORM						
Factor	Page reference	Characteristics and point ratings				Score
1 Roofing material	2-5	Metal, tile, asphalt, ULC-rated shakes or non-combustible material		Unrated wood shakes		
		0		30		
2 Roof cleanliness	2-6	No combustible material	Scattered combustible material, <1 cm in depth		Clogged gutter, combustible material ≥1 cm in depth	
		0	2		3	
3 Building exterior	2-7	Non-combustible stucco or metal siding	Log, heavy timbers		Wood or vinyl siding or wood shake	
		0	1		6	
4 Eaves, vents and openings	2-8	Closed eaves, vents screened with 3 mm mesh and accessible	Closed eaves, vents not screened with 3 mm mesh		Open eaves, vents not screened, debris accumulation	
		0	1		6	
5 Balcony, deck or porch	2-9	None, or fire-resistant material sheathed in	Combustible material, sheathed in		Combustible material, not sheathed in	
		0	2		6	
6 Window and door glazing	2-10	Tempered	Double Pane	Single Pane		
			Small/medium	Large	Small/medium Large	
		0	1	2	2 4	
7 Location of nearby combustibles	2-11	None or >10 metres from structure		<10 metres from structure		
		0		6		
8 Setback from edge of slope	2-12	Adequate		Inadequate		
		0		6		
9 Forest vegetation (overstory)	2-14	Deciduous	Mixed wood		Coniferous	
					Separated Continuous	
<10 metres		0	30		30 30	
10 - 30 metres		0	10		10 30	
10 Surface vegetation	2-16	Lawn or non-combustible material	Wild grass or shrubs		Dead and down woody material	
					Scattered Abundant	
<10 metres		0	30		30 30	
10 - 30 metres		0	5		5 30	
11 Ladder fuels	2-17	Absent	Scattered		Abundant	
10 - 30 metres		0	5		10	
Total Score for Factors 1 – 11						
Structure and Site Hazard Level						
Hazard Level	Low <21 points	Moderate 21-29 points	High 30-35 points	Extreme >35 points		

Scan from Top to Bottom - What to Look For:

- Factor 1 - Roof Material:
 - Combustibility – rated or unrated.
- Factor 2 - Roof Cleanliness:
 - Accumulated litter, moss and overhanging branches sustain ignition..
- Factor 4 - Eaves, Vents + Soffits:
 - Openings allow embers, heat, and flames to enter.
 - Vinyl soffits melt!



+



Scan from Top to Bottom of the Structure:

- Factor 3 - Exterior Walls:

- Combustibility varies, embers may lodge.
- May melt and expose inner combustibles.



- Factor 5 - Balcony/Deck/Fence:

- Flammability, nooks + crannies.
- “Wick” fire to main structure.



- Factor 6 - Windows and Doors:

- Variable resistance to heat fracture/collapse.
- Potential entry point for embers, radiant heat.



Scan Outwards from the Foundation:

- Factor 7 - Nearby Combustibles:

- Firewood, window boxes, furniture, scrap lumber, fences and “stuff”...
- Generates embers + heat x 3
- Leads to home ignition



- Factor 8 – Setback from edge of slope:

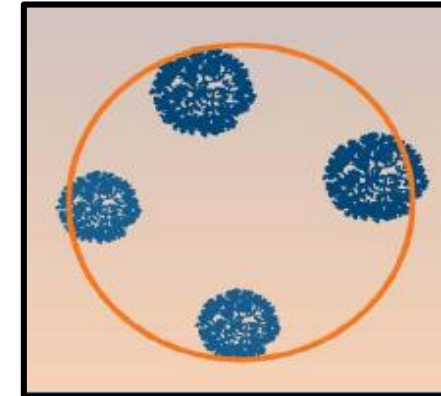
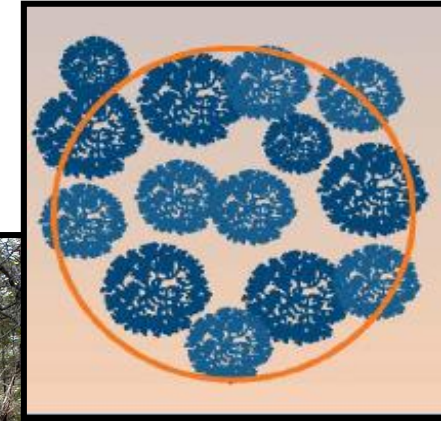
- Causes vulnerability to convective flame and embers rising from below
- Flame length may exceed setback from crest



Scan from Foundation > Outwards

- Factors 9/12 - Forest (Overstory) Vegetation:

- Will it sustain crown fire?
- Is it separated or continuous?
- Coniferous is more flammable than deciduous
- How will fire behave – and what are the implications



Scan from Foundation > Outwards

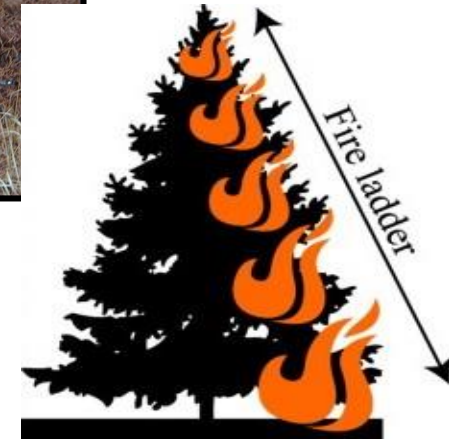
- Factors 10/13 - Surface Vegetation:

- Fine (grassy) and/or woody material?
- Grassy fuel treated/mowed?
- Medium or heavy fuel?
- Scattered or abundant?



- Factors 11/14 - Ladder Fuels:

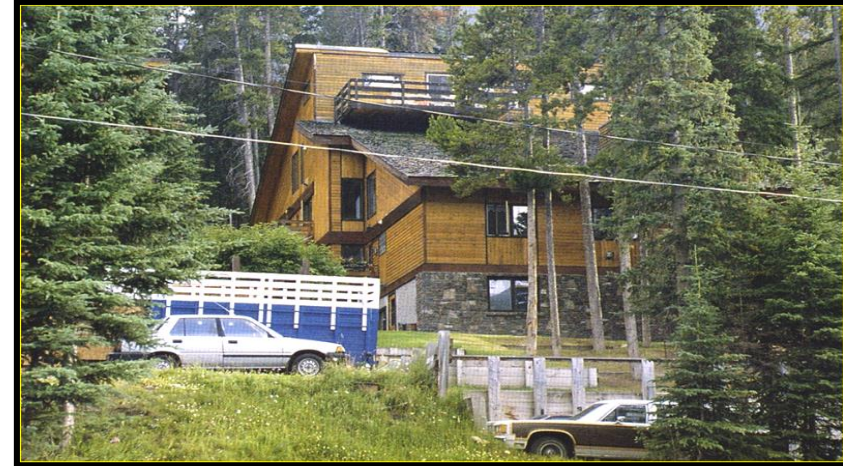
- Shrubs, young conifers, low branches?
- Absent, scattered or abundant?



Scan from Foundation > Outwards

- Factor 15 - Slope:

- Percent slope?
- Even or gullied?



- Factor 16 – Position on Slope:

- Valley bottom, Mid-slope or Upper-slope?



New Strategy for Wildfire Protection



GOOD NEWS !

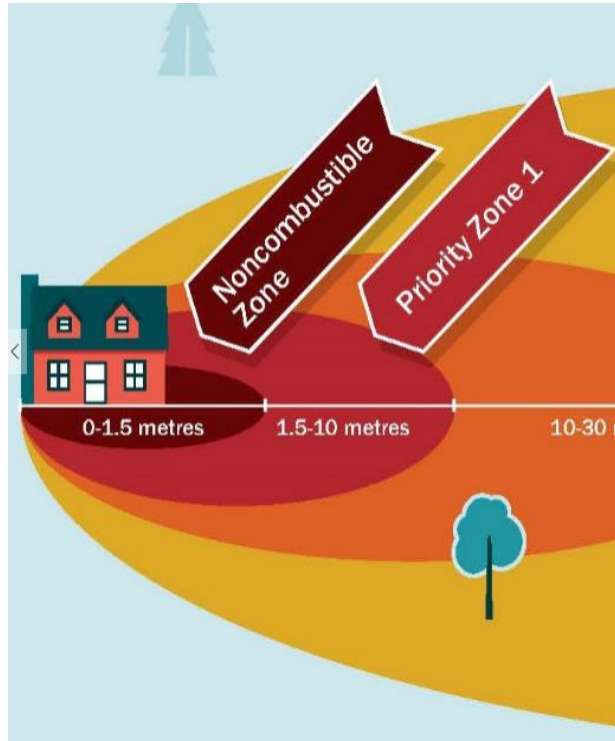
A relatively small amount of fuel reduction in the ignition zone decreases structure ignitability.

You are not helpless, simple mitigations can make a BIG difference!



Even in high intensity crown fires!

Vegetation Management



- ***Priority Zone 1a (0-1.5 m).*** Create a fuel free zone that will not sustain a surface fire. No combustibles.

Priority Zone 1 (1.5 – 10 m). Remove shrubs, deadfall, trees dried needles, woodpiles. Keep grass mowed and watered.

Priority Zone 2 (10 – 30 m). Reduce fuels by thinning and pruning. Remove or reduce evergreens so crown spacing is minimum 6'. Extend precautions on downward slopes.

Priority Zone 3 (30 m +). Thin combustibles to reduce intensity and sustainability should a fire occur.

FireSmart Landscaping Choices

FireSmart landscaping:

- Bark + wood chip mulch are susceptible to ignition from wildfire embers.
- Gravel or rock mulches are a better choice to reduce risk.



Vegetation Management Strategies



Before



After

1. Fuel removal
2. Fuel reduction
3. Fuel conversion

Recommended Guidelines for Balconies, Decks & Porches



- Use of fire resistant material and closing in balconies/decks provides increased fire protection.
- Provide access to areas below slotted deck surfaces so debris can be removed regularly.

Recommended Guidelines for Adjacent Combustibles



Firewood safely stored

- Locate >10 m from structure.
- Downslope location increases hazard.

Recommended Guidelines for Gas Utilities



- Remove vegetation < 3 m from LPG tanks.
- Locate LPG tanks > 10 m from structures.

Fire Protection Water Supply Homeowner Provided



- Sprinklers + Roof Watering Systems



- Homeowners with pumps + water sources can pre-configure sprinklers to protect their properties.



FireSmart properties are a
community benefit.

Wildfires less likely to ignite large
groups of homes in a
neighbourhood where most
structures are FireSmart.

**Together with our neighboring communities, we can work to better
prepare in defending our family, our homes and cottages and forests
and parks, from the threat of wildland fire.**

Thank You to our Sponsors



QUESTIONS

