



Fire-resilient communities and an empowered public



Protecting Canadian homeowners and
communities from wildfire in a changing
climate

Institute for Catastrophic Loss Reduction
Toronto, Ontario CANADA
March 20, 2012

FireSmart
Safer communities Healthier forests

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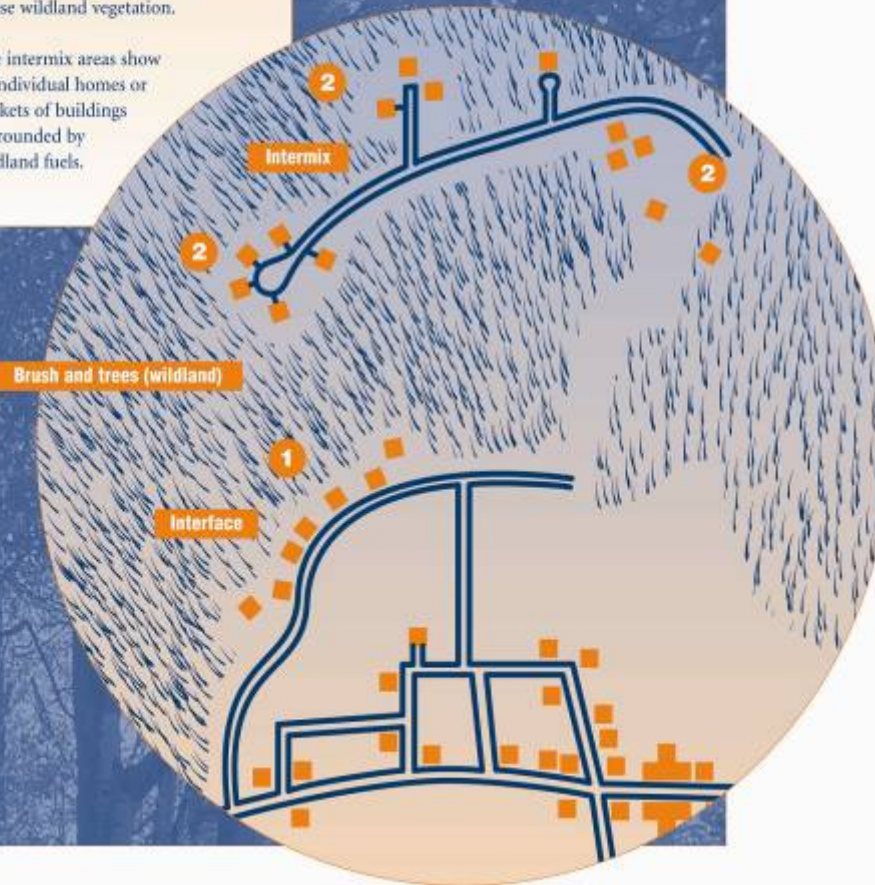
Executive Director
Partners in Protection Association



WHAT DOES WILDLAND/URBAN INTERFACE MEAN?

The term **wildland/urban interface** describes any area where combustible wildland fuels are found adjacent to homes and other buildings. This may occur at the **interface**, where development and wildland fuels (vegetation) meet at a well-defined boundary, or in the **intermix**, where development and wildland fuels intermingle with no clearly defined boundary.

- 1 The interface area is the first wave of buildings adjacent to dense wildland vegetation.
- 2 The intermix areas show as individual homes or pockets of buildings surrounded by wildland fuels.

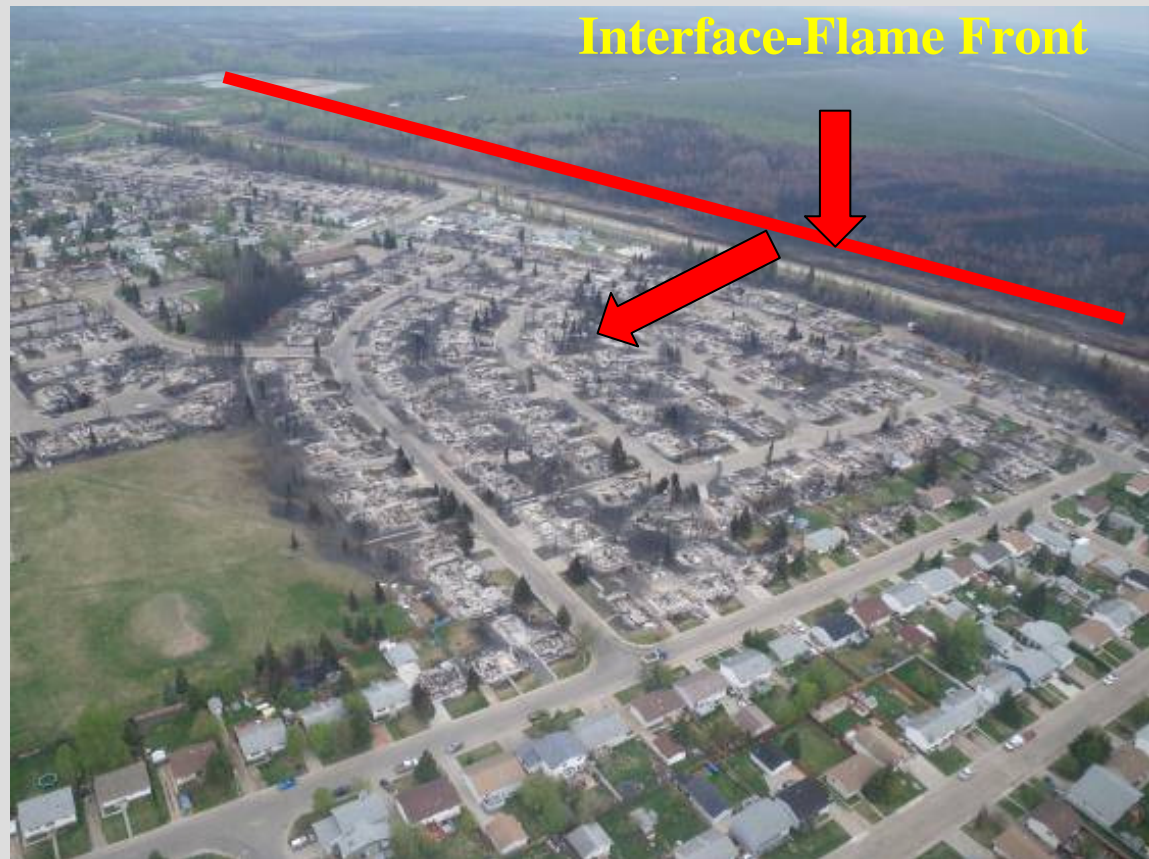


A Shared Responsibility



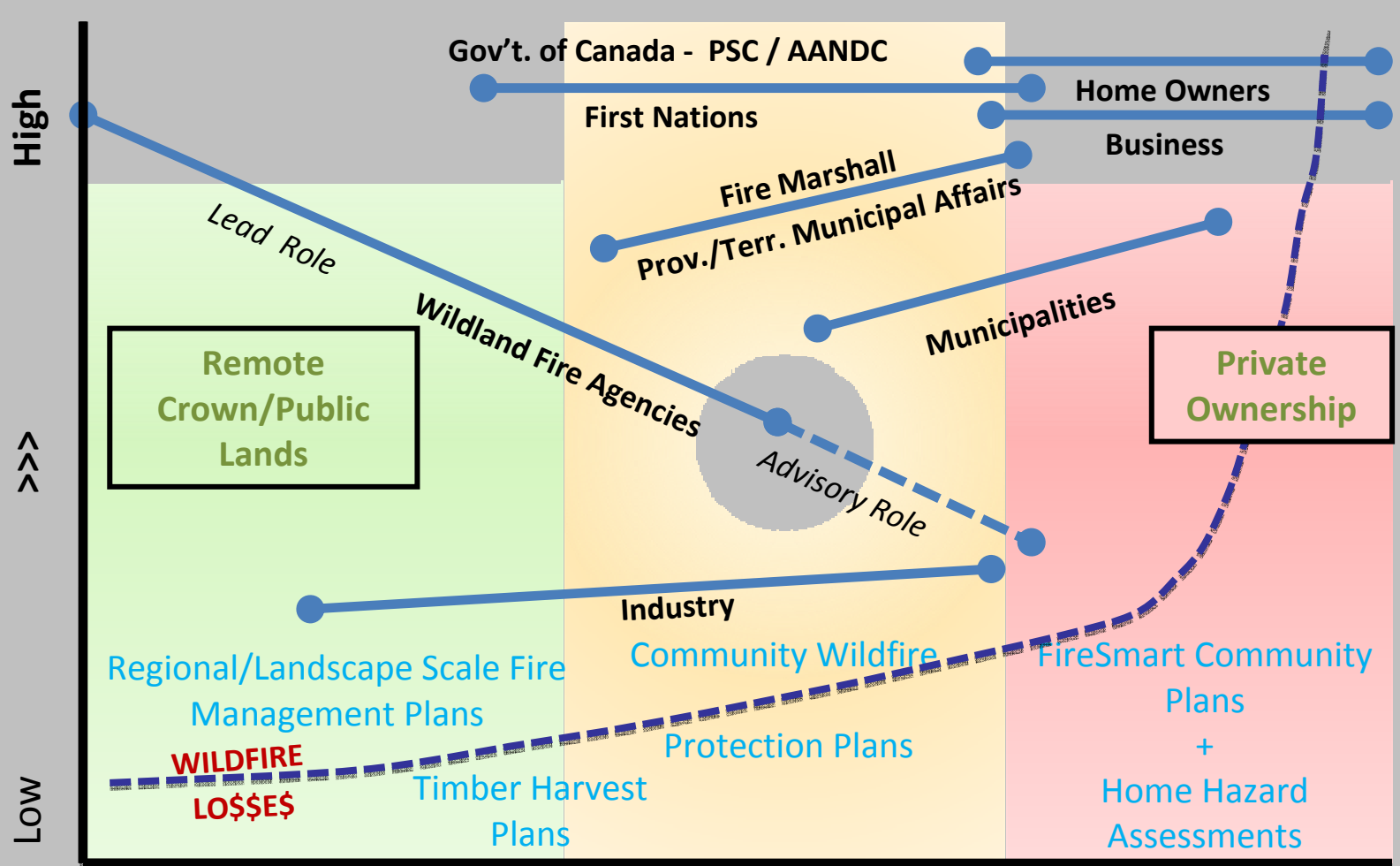
Who is responsible?

Governments
Fire Agencies
Emer-Services
Legislators
Planners
Developers
Home Owners
Insurers
Education &
Communication



GENERIC FIRESMART RESPONSIBILITIES, BY JURISDICTION, WITHIN CANADA

LEVEL OF RESPONSIBILITY



- FPT Governments
- Landscape Zone

- Urban Fringe + Community
- Municipality + Subdivisions

- Private Ownership
- Home Ignition Zone

JURISDICTION/LOCATION

Partners in Protection

Who are we?

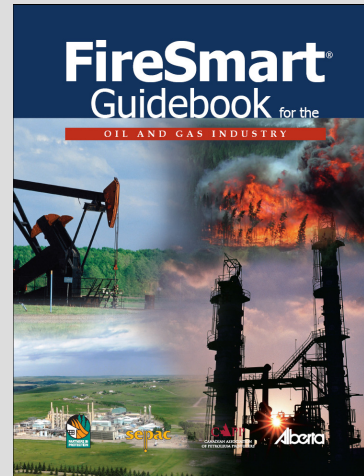
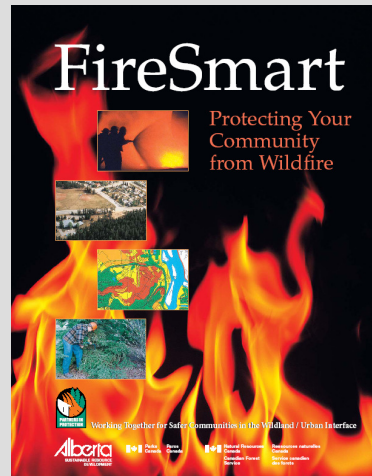
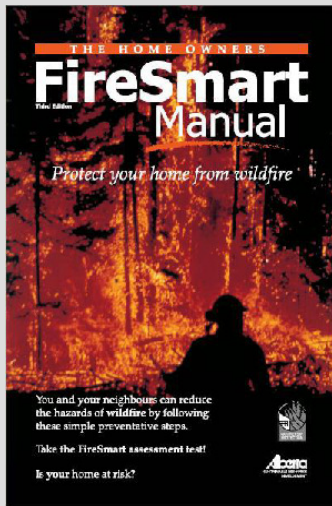


Mandate: To increase the level of inter-agency cooperation, and to promote public awareness and education aimed at reducing the risk of loss of life and property from fire in the wildland/urban interface

- ❖ Shared Responsibility
- ❖ Non Profit Association
- ❖ Equal Partnership
- ❖ Awareness
- ❖ Seven Disciplines
 - ⇒ Planning & Development
 - ⇒ Legislation
 - ⇒ Vegetation Management
 - ⇒ Emergency Planning
 - ⇒ Interagency Co-operation
 - ⇒ Cross Training
 - ⇒ Public Education

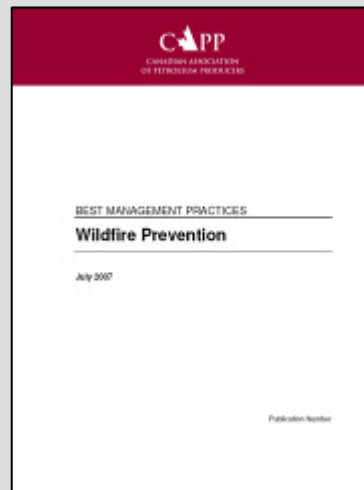


Major Accomplishments



A User Reference Guide to the **FireSmart Canada Community Recognition Program**

*Adapted from FireWise
Communities/USA material with the
assistance of the National Fire
Protection Association*



Today



- ❖ Membership in 8 provinces and US
- ❖ Recognition and support by Canadian Interagency Forest Fire Center (CIFFC)
- ❖ Memorandum of Agreement with National Fire Protection Association (NFPA)
- ❖ Recognition and support of Institute for Catastrophic Loss Reduction (ICLR)
- ❖ Sustained funding remains the major stumbling block



National Fire Protection Association (NFPA)



MOU signed between the National Fire protection Association (NFPA) and Partners in Protection (PiP) in February of 2011.



Purpose: to provide a general framework of cooperation between NFPA and PiP concerning the delivery of wildland/urban interface (WUI) education and wildland fire risk mitigation programs in Canada

Permission to PiP to adapt select Firewise Communities/USA materials and other NFPA proprietary materials relating to the Wildland Fire Operations Division's Firewise program for use in Canada.

Into the Future



- ❖ National Registration as PiP Canada
- ❖ National FireSmart Strategy
- ❖ Development of a new and improved website [FireSmart Canada.ca](http://FireSmartCanada.ca)
- ❖ Launch of FireSmart Canada Communities Recognition Program

FireSmart Communities Recognition Program



- ❖ Core component of FireSmart Canada Initiative
- ❖ Adapted from FireWise Communities USA
- ❖ Designed to overcome some of the jurisdictional barriers by providing community based solutions that enhance government efforts
- ❖ Goal is to deliver three Operational Training and FireSmart Workshops this year
- ❖ First will be held in Kamloops, BC

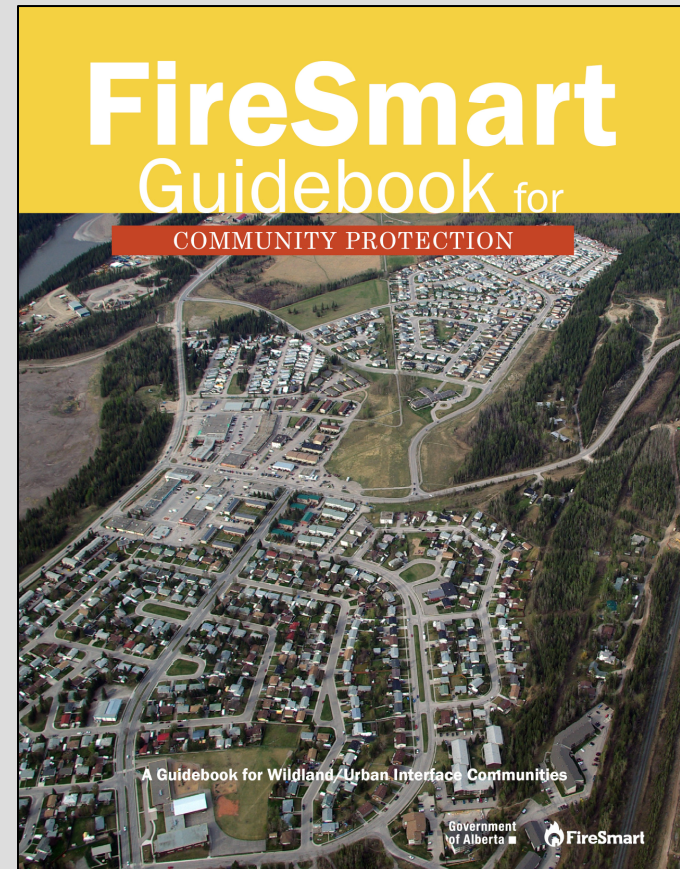
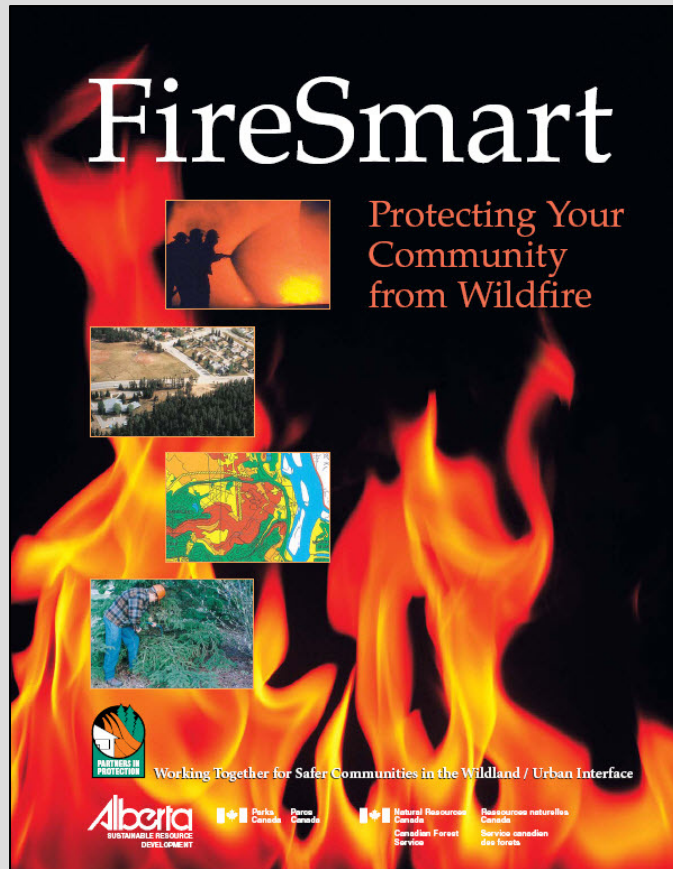
FireSmart Communities Recognition Program



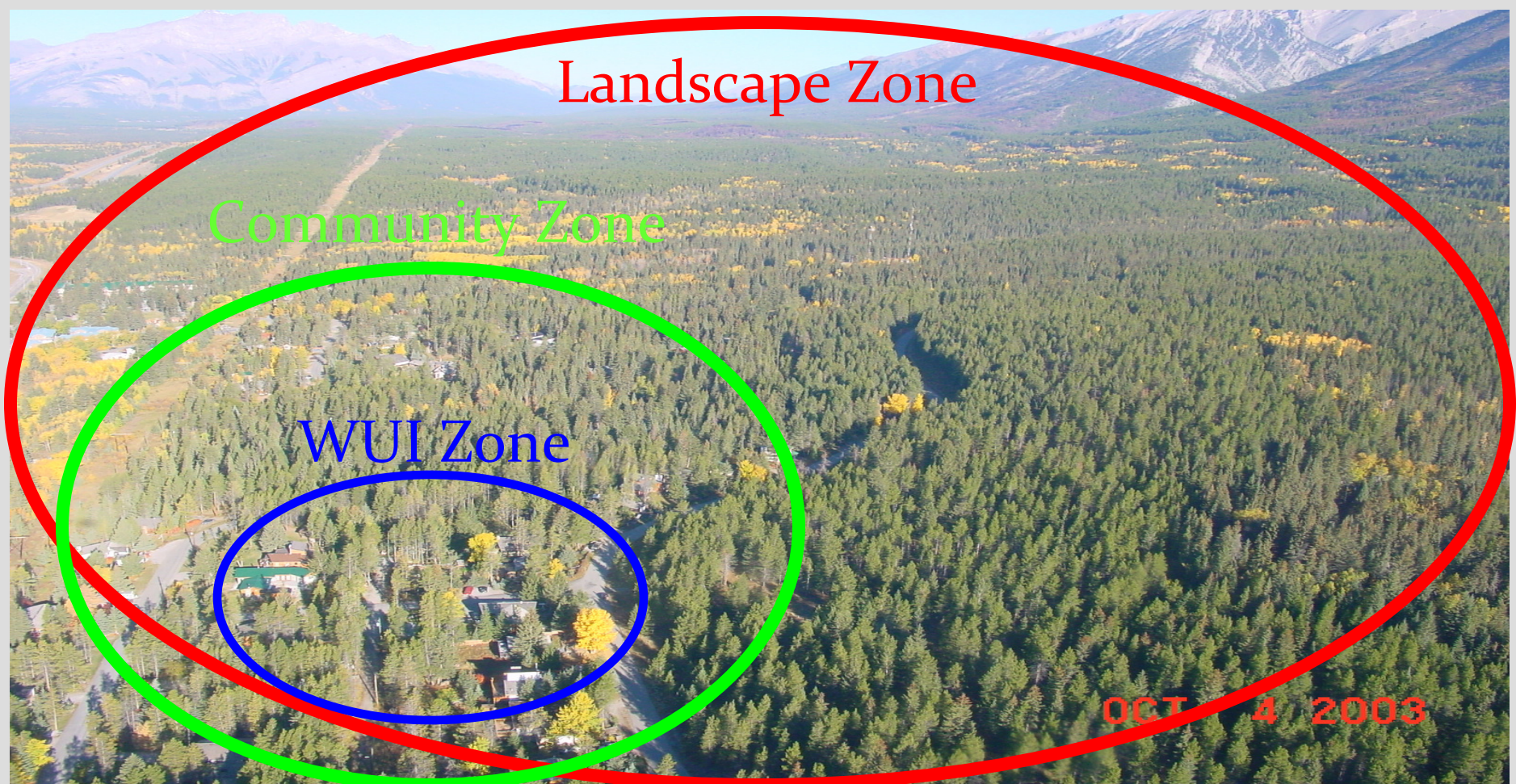
- ❖ Designed to encourage local self-organized groups of neighbours to implement solutions for wildfire safety by engaging and supporting homeowners, community leaders, planners, developers, firefighters and government agencies in shared efforts to protect people and property from wildfire
- ❖ Community Assessment/Plan
- ❖ FireSmart Committee
- ❖ FireSmart Day Event
- ❖ Invest min \$2/capita
- ❖ Submit Application



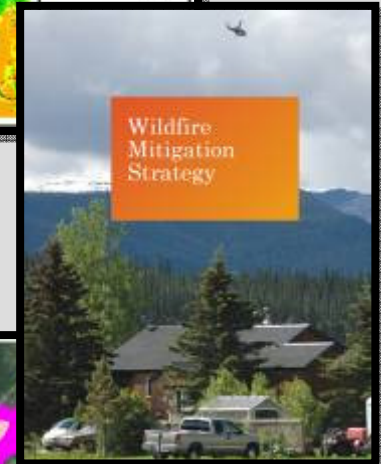
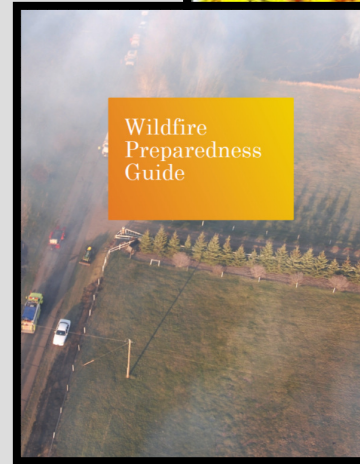
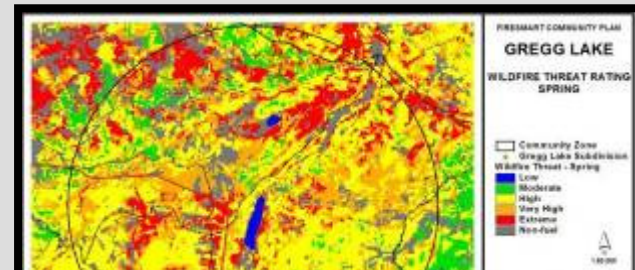
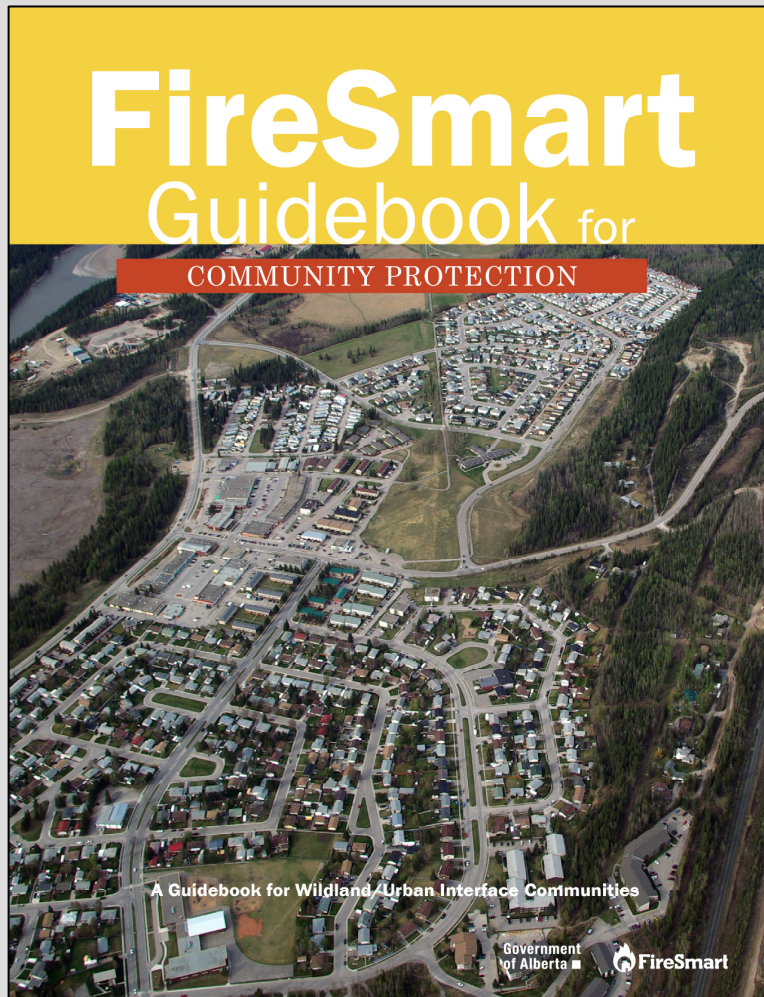
FireSmart – Agency Evolution



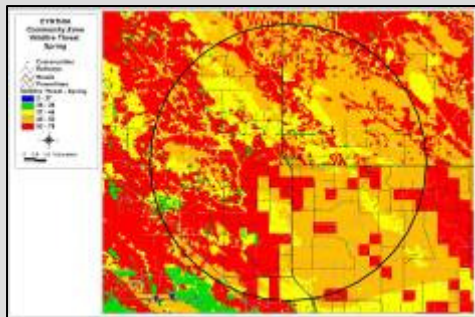
FireSmart Zones



Build the FireSmart Community Plan



Assessing Wildfire Hazard & Risk



		Likelihood			
		Low	Moderate	High	Extreme
Consequence	Catastrophic	Moderate	High	Extreme	Extreme
	Major	Moderate	High	High	Extreme
	Moderate	Low	Moderate	High	High
	Minor	Low	Low	Low	Moderate

Home & Site Hazard Assessment

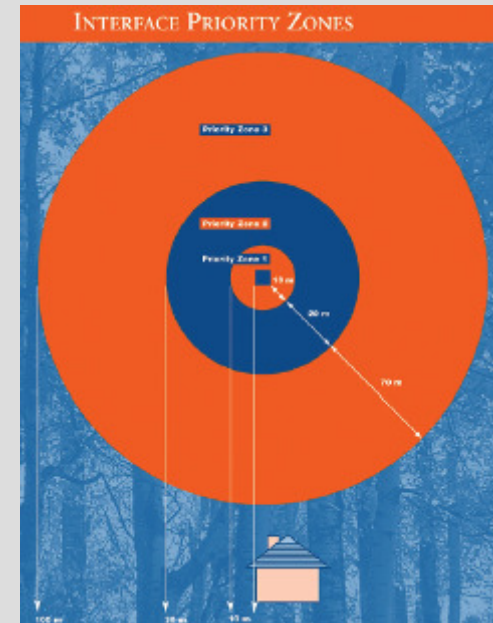
Important Factors	Characteristics of Material	Point Rating	Your Score
What kind of roofing material do you have?	Metal, clay tile, asphalt shingle or ULC-rated shingles	0	
	Untreated wood shingles	30	
How clean is your roof?	No needles, leaves or other combustible material	0	
	A scattering of needles and leaves	2	
	Chopped gutters and excessive leaves	3	
What is the exterior of your home built of?	Non-combustible material (stucco, metal siding or brick)	0	
	Logs or heavy timbers	1	
	Wood, vinyl siding or wood shingles	6	
Are your eaves and vents closed-up and screened?	Closed eaves and vents with 3 mm of wire mesh	0	
	Closed eaves and vents with no mesh	1	
	Open eaves and vents	6	
Have you screened-in the underside of your balcony, deck or porch?	Decks, balconies and porches are screened or sheathed with fire-resistant materials	0	
	Decks, balconies and porches are screened or sheathed with combustible materials	2	
	Decks, balconies and porches are not screened or sheathed	6	
How fire-resistant are your windows and doors?	Tempered glass in all doors/windows	0	
	Double-pane glass	1	
	• Small/Medium • Large	2	
	Single-pane glass:		
	• Small/Medium • Large	2 4	
Where is your woodpile or other combustibles located?	More than 10 metres away from any building	0	
	Less than 10 metres away 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 is located on the mid-to upper portion or crest of a hill	6	

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

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	
	Mixedwood (poplar/birch & spruce/pine) within 10 metres of buildings	30	
	Mixedwood 10-30 metres from buildings	10	
	Conifers (spruce, pine or fir) within 10 metres of buildings	30	
	• Separated • Continuous	30 30	
	Conifers (spruce, pine or fir) within 10-30 metres of buildings	10	
	• Separated • Continuous	10 30	
What kind of surface vegetation grows in the zones 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 5	
	Dead and downed woody material within 10 metres of building	30	
	• Scattered • Abundant	30 30	
	Dead and downed woody material within 10-30 metres of building	5	
	• Scattered • Abundant	30 30	
Are there abundant underbrush and ladder fuels in the surrounding forest?	None within 10-30 metres	0	
	Scattered within 10-30 metres of buildings	5	
	Abundant within 10-30 metres of buildings	10	
The Wildfire Hazard Level for your home is:	Total Score		

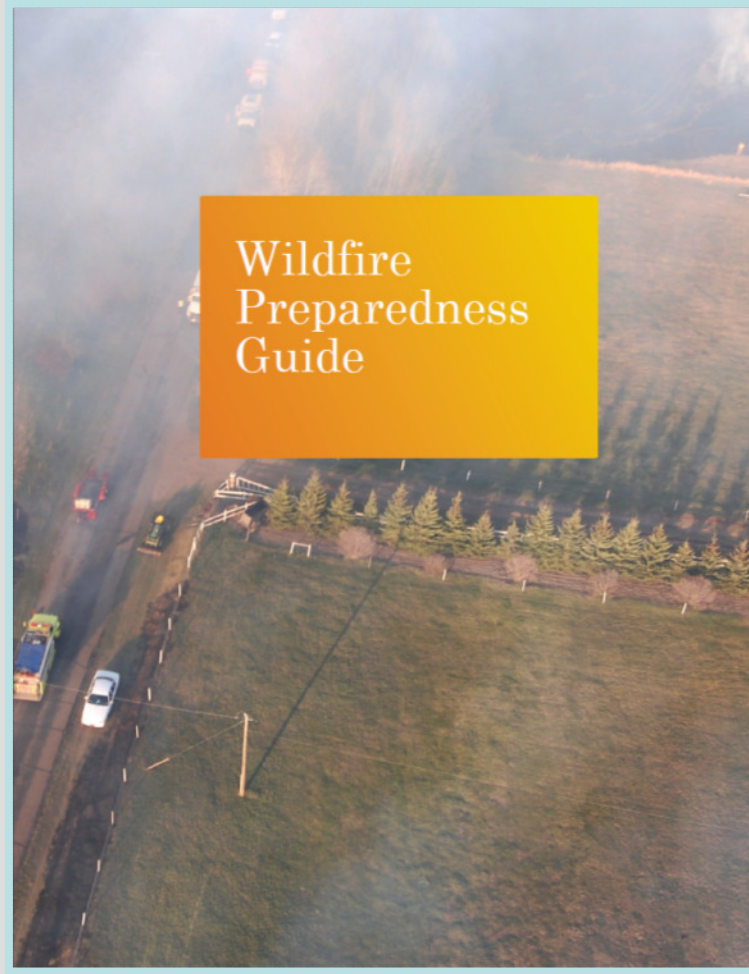
Low <21 points Moderate 21-29 points High 30-35 points Extreme >35 points



Wildfire Preparedness Guide



Preparing a
FireSmart
Community
Plan



- ❖ Operational strategies during a wildfire event
- ❖ First priority is safety and evacuation protocols

Wildfire Preparedness Guide



Low La Mac Area 2019 Wildfire Preparedness Guide

Calling Lake

Key Contacts

MP of Operations	(780) 870-1770
Emergency Operations Centre	
Disaster Services	
Chris Lopez	(780) 890-0381
	(780) 891-8188
Calling Lake Supervisor	
Brett Central	(780) 110-2476
Calling Lake Fire Hall	(780) 411-9949
Fire Chief: Steve Schuch	(780) 110-2914
	(780) 891-8181
Deputy Chief: Mike Vanderweij	(780) 110-2109
	(780) 110-2860
Regional Fire Manager	(780) 890-1838
Director of Emergency Management	
Donald Clarke	(780) 870-5839
Deed Manager	
Yves Tessier	(780) 490-1824
	(780) 499-5532
LEB Fire Center	(780) 410-1188
Drum Office	(780) 410-1140
Utilities	(780) 448-1046
ATCO	(780) 418-4133
	(800) 468-5706
RCMP	
Emergency Search and Rescue	911
Alberta	(780) 479-4212
Alberta Municipal Affairs	
Disaster Services	(800) 170-9490
Alberta Emergency Management Agency	1-800-525-1243
AEGIC	
Field Office	(780) 445-1214
Red Cross	

Values at Risk

- Critical Infrastructure**
- MD Office and Services Centre
 - Day Shift
 - AMGA
 - Shed
 - MD Maintenance Yard
 - MD Carp Shop and yard
 - Wood Chemical Sub-Facility
 - Resale Centre, Quarry
 - Quarry
 - Moovitron Tower
 - Calling Lake Lodge
 - Man Agriplex Office
 - Fire Treatment Plant
 - Church
 - Communications Tower
 - Man Powerline
 - Calling Lake Forensic Park
 - Factory Range Station
 - Valley Club
- Special Values at Risk: Livestock, Cemetery**

Dangerous Goods Site

- Moovitron Market
- Scum Park (Closed)
- Range Station
- MD Yard
- Waste Transfer Station, etc., etc.

Water Supply

- Calling Lake
- Wellhead supply
- Hydrant System, Reserve 700 m3 backup pump 1200 gal/min/sec

Apparatus Deployment Plan

- If the fire originates from outside the community, first priority for deployment should be concerned on structure closest to the approaching fire.
- The primary role of the Fire Department will be to protect those close vicinity endangered by advance members and extinguish any structure ignitions.

Area Description

The hamlet of Calling Lake is situated on the east side of Calling Lake. The community is comprised of the Jean Dejean Complex Indian Reserve to the north, west corner with municipal infrastructure and residences; at the center, and a cottage village sub-division to the south. The hamlet is open and protected from wildfires by the lake to the west and Acadians and spruce wood lands to the north. However, very combustible forest lands exist to the south and east of the community. Highway 813 (Alberta-Grainway) runs along the east side of the hamlet. The most residential development is west of the highway, though there are some residences, an open camp, industrial area and infrastructure on the east side as well.



Fire Department Resources

- Calling Lake Fire Department
- 14-20 fire engines
- 1 400 gpm Type 1 Engine
- 1 1200 gpm Type 1 Engine
- 1 2000 gal water tender
- 1 Rescue Unit/Command unit
- 1 Ambulance
- 1 Boat

Communications

- Command (Mutual Aid Channel)**
- 118.811 MHz Wide Band
- District (VLCRD)**
- TX 158.420 RX 151.400 Tone 151.4
- District (Call)**
- Fire Line 44 110.670 MHz Tone 44.130
- Tests of VCRD Heavy Equipment**
- Fire Line 11 110.590 MHz Tone 110 Hz
- Aircraft Monitoring**
- Fire Line 303 by XMAA3 TX 157.770
- MHz 813 110.710 MHz 402.3 Hz Tone
- Alt Advisory** 120.800 MHz

Evacuation Protocol

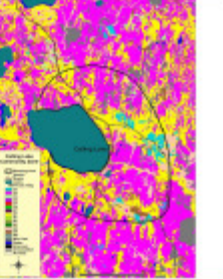
- SRD IC will advise the DO when a fire is threatening the Community. DO will advise the Municipal Disaster Services Authority. Alert status will be determined by the Evacuation Trigger Point.
- When a wildfire is discovered and initial attack has failed to contain the fire near within the primary containment line, the IC will give a strategic evacuation notification.
- If a wildfire occurs within the second containment line, or is immediately threatened, the IC may be required to do a tactical evacuation and give immediate notification.
- If a wildfire approaches the community from a distance of greater than 10 kilometers, the Evacuation Alert will be based on local weather conditions and fire behavior.

Evacuation Routes

- All roads within the subdivision can be used as evacuation routes. Specific routes will be designated by the local RCMP at the time.
- Highway 813 is the main evacuation route out of the area.
- Algoe C Road is the secondary evacuation route out of the area.
- Emergency Assembly/ Safe Refuge Areas**
- If requested, temporary assembly and housing will be established at the facility area.
- Responder Evacuation**
- Responder evacuation will be determined by the Incident Commander.
- Escape Routes/Safety Zones**
- Potential locations are identified on the attached map.

Staging Areas

- Old forestry site to East
- Old M&I site to North
- Transportation Yard to South
- Calling Lake Lodge to South

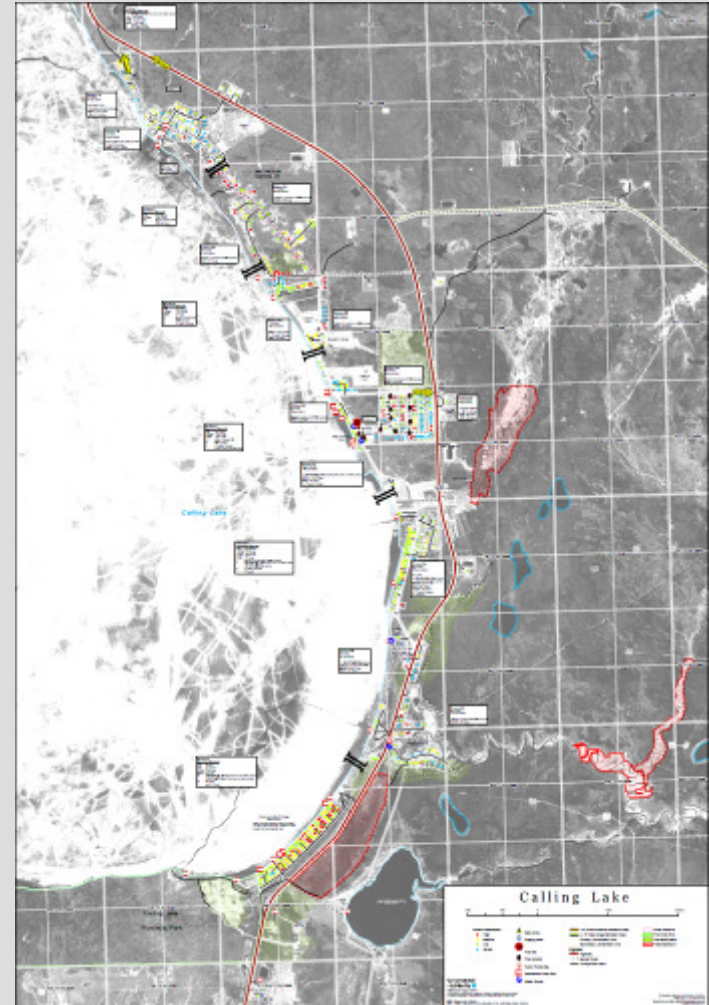


Wildfire Operations

- Primary Strategy**
- The primary strategy should be to contain a wildfire close to the fire at the C Road.
- Fire Department's primary role will be to protect the portion of the community that is under threat by advance members and extinguish any spot fire starts.
- Secondary Strategy**
- If the fire is a heavy inside this area, or jumps across the secondary plan, should be to protect structures on the East side of Highway 813 and use Highway 813 and the existing firebreaks and roadways in East breaks to protect the fire from reaching the hamlet.
- Should the fire originate from within the community, or breach the containment line, the fire crew will be made primary structures closest to the fire that are at risk of ignition.

Fire Behavior Factors

- Wind:** G to SE 00 East 01 North
- Topography:** Flat

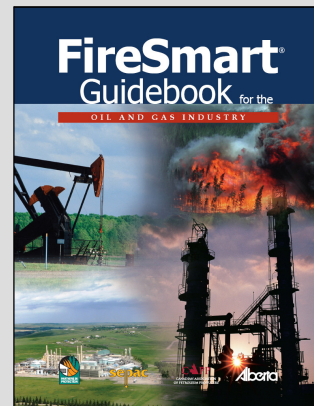
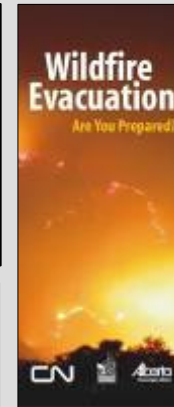
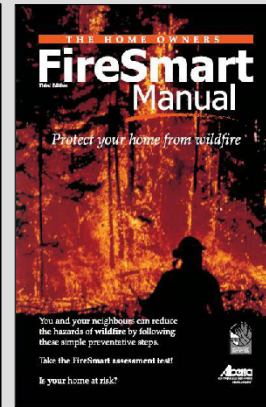
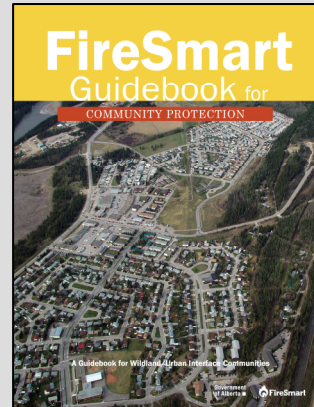
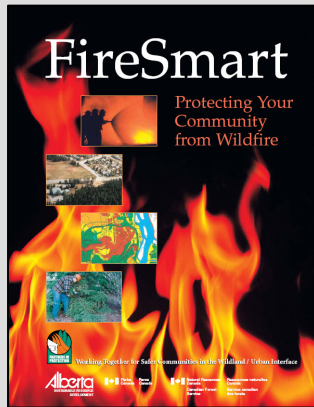


Wildfire Mitigation Strategy

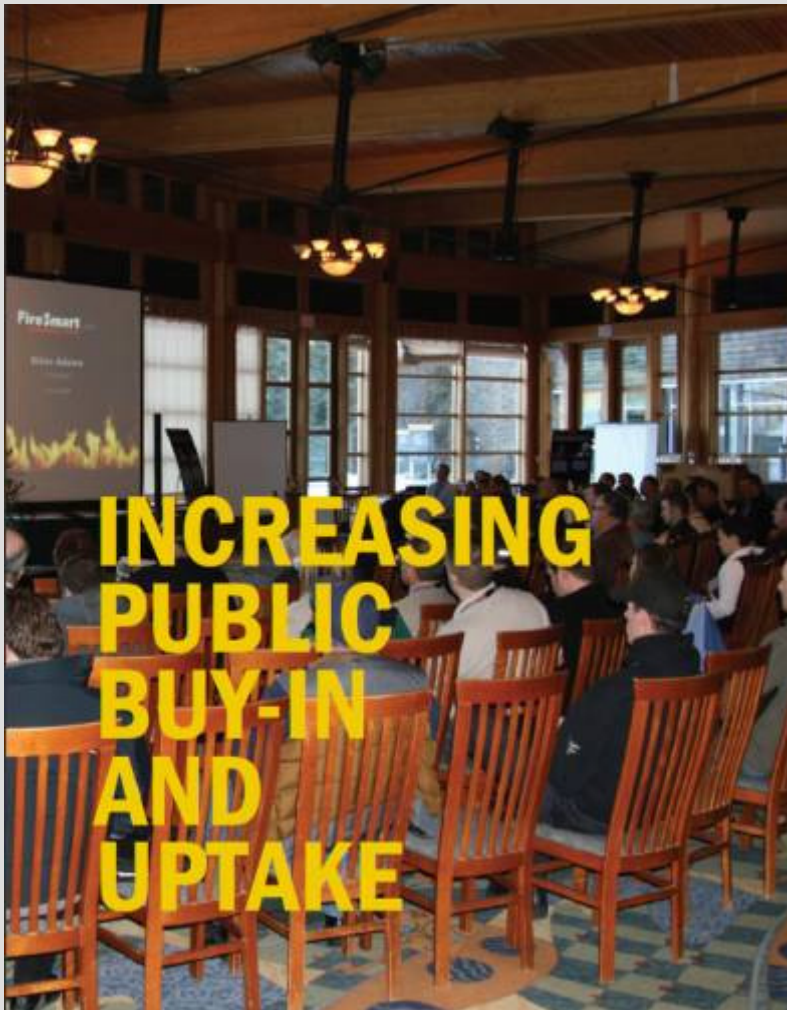


- ❖ Education
- ❖ Vegetation management
- ❖ Legislation and planning
- ❖ Development considerations

Education & Communication



Public Awareness

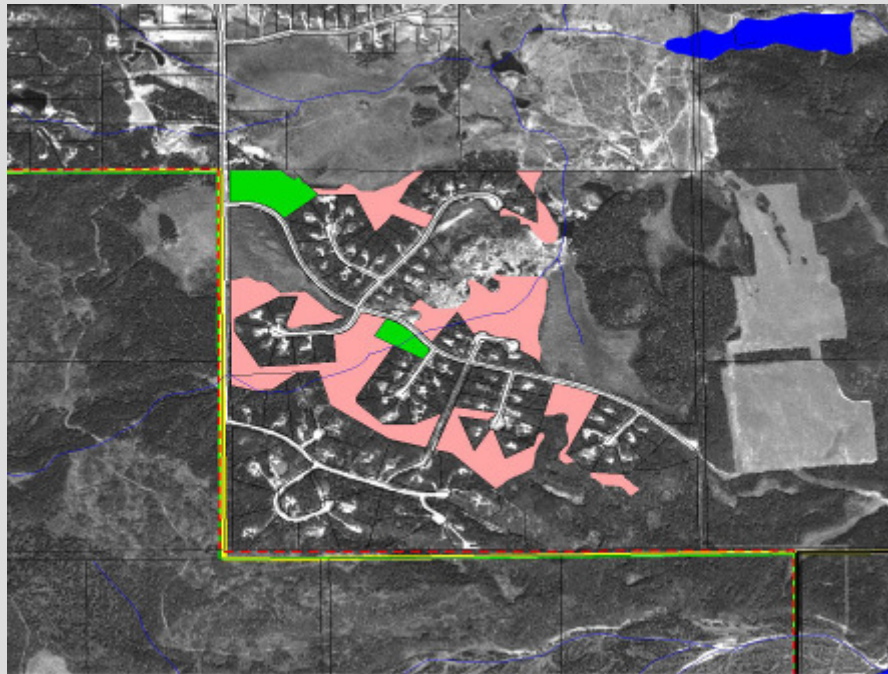


FireSmart Action Items

1. Engage stakeholders to identify opportunities for distributing FireSmart information.
2. Inform residents about the FireSmart program and let them know how they can reduce the risk on their property.

- ❖ Locally meaningful messaging
- ❖ Call to action
- ❖ Open houses
- ❖ Work bees

Vegetation Management



Legislation



FireSmart Action Items

Revise municipal bylaws, plans and policies to:

1. recognize wildfire as a development constraint.
2. require new developments located in high-hazard areas to integrate FireSmart principles (construction material, landscaping, etc.).



Review and revise Municipal planning and development legislation:

- ❖ Recognize wildfire as a development constraint
- ❖ FireSmart exterior building materials in hazard areas
- ❖ Manage hazardous forest and wildland conditions

Development Options



FireSmart action items

1. Integrate FireSmart principles into the approval process for all developments located in the wildland/urban interface.
2. Align development standards with the FireSmart – Protecting Your Community from Wildfire publication and the CAPP- FireSmart Guidebook for the Oil and Gas Industry.

- ❖ Structural options
- ❖ Infrastructure options

Development Considerations Structural Options



Recommended FireSmart Practices



PHASE 1

- ❖ Store firewood a minimum of 10 metres from any structures
- ❖ Contact your utility company if trees or branches are not clear of power lines.
- ❖ Have your address, municipal fire number or lot clearly visible for quick identification by fire services
- ❖ Ensure your roof is free of litter (twigs, needles, leaves, etc.)
- ❖ FireSmart your fire pit or burning barrel and never leave it unattended while burning.
- ❖ Have on hand basic fire fighting equipment (shovels, rakes, axes, garden hoses, sprinklers and ladders).

Recommended FireSmart Practices



PHASE 2

- ❖ Remove flammable vegetation within 10 metres of structure.
- ❖ Thin and prune (to a minimum height of 2m) all coniferous trees that fall within Zone 2 (10 -30 m).
- ❖ Clear vegetation from power lines, propane tanks and other fuel supplies.
- ❖ Ensure your chimney is up to code and has spark arrestor screens installed.
- ❖ Close in eaves, vents and soffits if exposed.
- ❖ Have a nearby pond or tank that serves as an adequate water supply.

Recommended FireSmart Practices



PHASE 3

- ❖ Make sure your driveway is wide enough to support emergency vehicles.
- ❖ Provide an alternate emergency access route to and from your property.
- ❖ Clear your driveway of trees to a distance of at least 3 metres on either side.
- ❖ Enclose decks, patios and crawl spaces with fire resistant material
- ❖ Locate propane tanks at least 10 metres from any building and clear vegetation to a distance of 3 metres around propane tank.
- ❖ Use Class A, B or C rated fire resistant roofing material and fire resistant exterior siding materials.

Wildfire Mitigation Strategy



- ❖ Emergency planning
- ❖ Interagency cooperation
- ❖ Cross-training

Emergency Planning



FireSmart action items

1. Review municipal emergency management bylaws to ensure the appropriate authorities and procedures are in place to effectively respond to wildfire.
2. Review the risk management matrix in your municipal emergency plan or municipal emergency management program to ensure wildfire is a recognized risk, and that responders are aware of their roles and responsibilities during a wildfire.
3. Develop a wildfire preparedness guide for your community.
4. Develop resource-sharing agreements with neighboring jurisdictions.

- ❖ Municipal Emergency Plan
- ❖ Wildfire Preparedness Guide
- ❖ Mutual-aid Fire Control Agreement
- ❖ Incident Command System
- ❖ Cross-training Exercises

Interagency Cooperation



FireSmart Action Items

1. Identify stakeholders in your area and develop a FireSmart committee.
2. Test your wildfire preparedness guide through a mock wildfire response exercise.
3. Work with your mutual-aid partners to deliver the following cross-training courses:
 - ▶ Fire operations in the wildland-urban interface (S-215)
 - ▶ Sprinkler deployment workshop
 - ▶ Wildfire orientation/Wildland firefighter NFPA 1051 level I
 - ▶ Incident command system 100 and 200

- ❖ Mutual-Aid & Fire Control Agreements
- ❖ Hazard and resource information exchange
- ❖ Equipment sharing
- ❖ Regular meetings
- ❖ Mock-disaster exercises

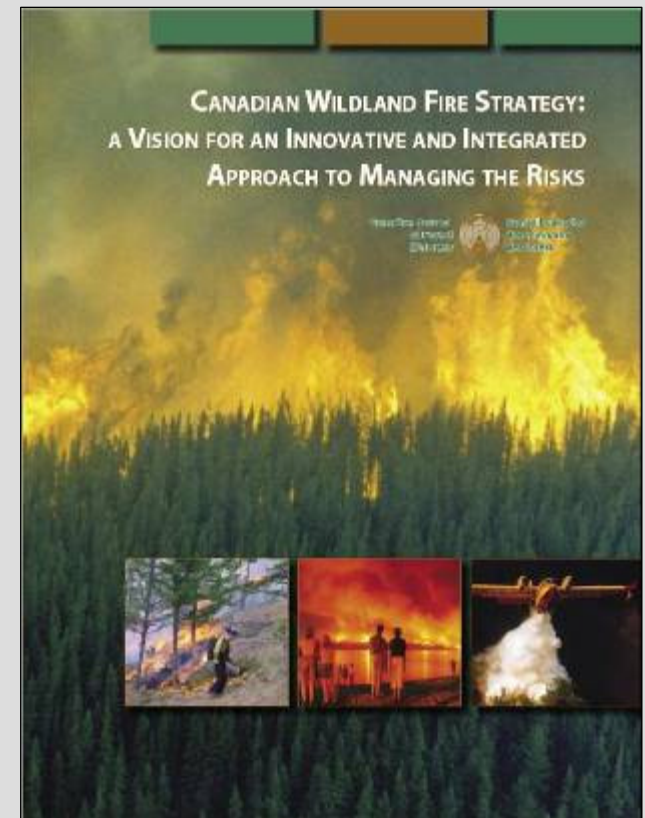
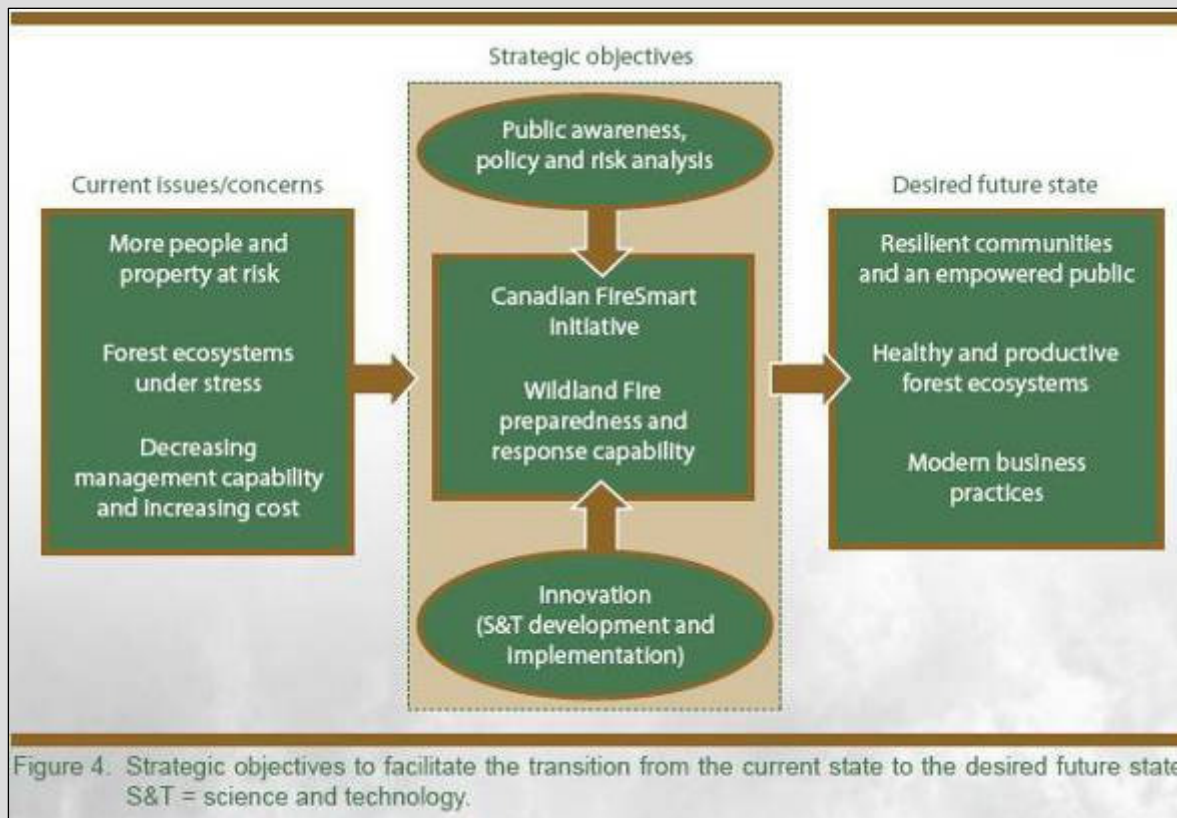
Cross-training



Canadian Wildland Fire Strategy



A Vision for an Innovative and Integrated Approach to Managing the Risks, 2005



National FireSmart Efforts



- ❖ Canadian Council of Forests Ministers – Wildland Fire Management Working Group (CCFM-WFMWG)
- ❖ Canadian Interagency Forest Fire Centre – Wildfire Prevention Community of Practice (CIFFC WPCoP)
 - ⇒ Institute for Catastrophic Loss Reduction (ICLR)
 - ⇒ Partners in Protection Association (PIPA)
 - ✓ National Fire Protection Association / Firewise
 - ⇒ Wildfire Management Agencies



Vision

Building excellence into the wildfire prevention practices of Canada's wildfire management community through collaboration and knowledge sharing.

FireSmart Deliverables

- ❖ FireSmart Communities Workshop
- ❖ FireSmart Expansion Strategy
- ❖ Wildland Fire Canada 2012

A FireSmart Canada



The 'Solution'



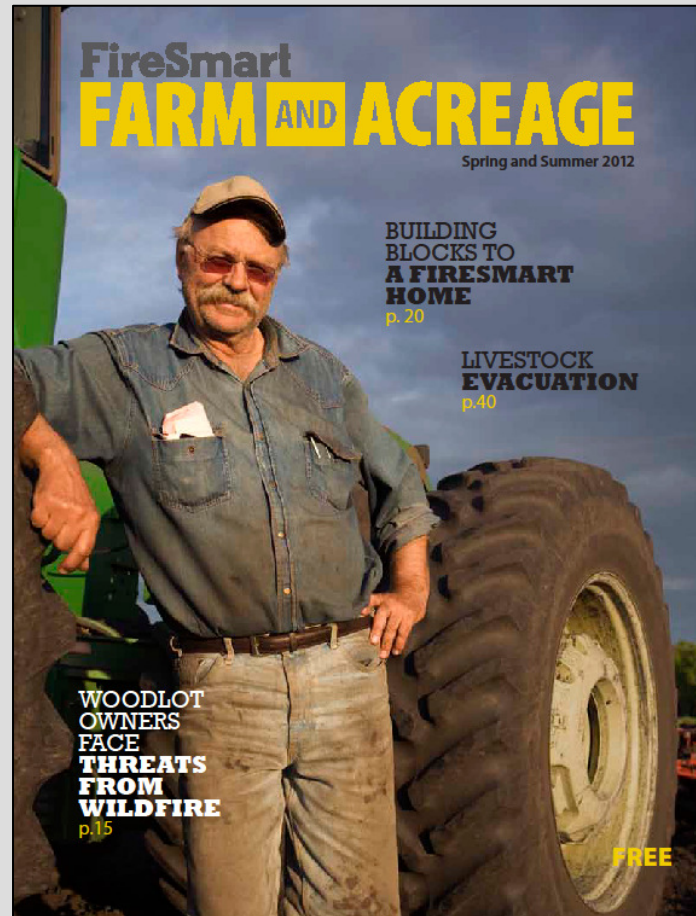
How can the Canadian home building & insurance industry be involved

- ❖ Become a FireSmart partner and help promote, educate and empower others to act FireSmart
- ❖ Invest in models and other tools to get an accurate wildfire risk assessment.
- ❖ Adopt FireSmart principles in the Fire Underwriters Survey
- ❖ Building codes that include FireSmart principles
- ❖ Provide incentives to policyholders that have taken the necessary steps to better prepare their homes and property to withstand fire.
- ❖ Support the continued partnership between the Institute for Catastrophic Loss Reduction and the Wildland Fire Community

Questions...



Hot Off The Press!



39 Newspapers

138, 500 copies