



# BEST PRACTICES

A comprehensive local plan

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Source: City of Nelson

Rising loss and damage from wildfires faced by communities across Canada located in the wildland-urban interface is of serious concern to homeowners, fire departments, government planners, community associations, other disaster response personnel, insurers and other stakeholders. Growth in the value of assets located in at-risk areas and the changing climate are driving factors contributing to Canada's growing risk of losses from this hazard. Some communities, fortunately, have displayed great creativity, foresight and commitment to reducing their risk to wildfires by capitalizing on their strengths and forming alliances with internal and external players to build capacity. Wildfires like those experienced in Okanagan Mountain Park (2003), Slave Lake (2011), Fort McMurray (2016) and the recent devastating wildfires in British Columbia confirm the need for strong local leadership in reducing wildfire risk for communities located in the wildland urban interface. The case studies in this publication are a testament to the progress made by some communities in reducing wildfire risk.

## LOCAL LEADERSHIP

Best practices to reduce community risk of wildfire damage must begin with a commitment from local leaders to own and address the risk. Sustained and bold action required in most communities requires local leaders who choose to own responsibility for addressing the risk. Perseverance will result in a meaningful reduction of risk, yet experience demonstrates that progress will take time and many challenges will arise during the journey.

Significant progress requires collaboration. Provincial and Territorial fire agencies and Parks Canada are responsible for managing fire on Crown lands. Crown lands account for the vast majority of Canada's forests. Private property owners are responsible for most of the land and structures in the community. An effective community wildfire protection plan requires collaboration and active participation by Fire Agencies, property owners and other stakeholders. Community fire protection is a shared responsibility, and it is most effectively implemented with strong local leadership.

## SEVEN DISCIPLINES OF FIRESMART

The gold standard for approaching wildfire risk reduction is set out in the seven disciplines established by FireSmart Canada. This framework provides a comprehensive approach to understanding and addressing the risk of loss from wildfire. The approach was designed in Canada to best address wildfire risk in this country and can be adapted to the specific needs of each community.

The seven disciplines of FireSmart are:

**Education** – Empower community action through enhanced risk awareness of wildfire and knowledge about proven risk reduction practices.

**Vegetation management** – It is essential to limit the fuels that may allow fire to enter into or spread across the community when burning embers blow in from the forest.

**Legislation and planning** – Development planning, building construction requirements and enforcement practices established by the community can significantly reduce the risk of loss.

**Development considerations** – The design of new structures and renovation of existing buildings provide opportunities for the community to build wildfire resilience.

**Interagency cooperation** – Local fire agencies confronted by fire need to partner with provincial agencies and support provided by neighboring communities.

**Cross-training** – Wildland/urban interface wildfires require response from wildfire and structural firefighters, two disciplines that work best together when supported by cross-training.

**Emergency planning** – Fires, particular large fires, can be complex and require response by fire agencies working with other emergency management professionals.

## **COMMUNITY WILDFIRE PROTECTION PLAN**

Action to reduce the risk of loss should begin with a formal assessment of wildfire risk in the community. This is typically led by an independent advisor and is a major undertaking. Ideally the assessment results in a proposed Community Wildfire Protection Plan designed to address the seven disciplines set out by FireSmart Canada. The Protection Plan template published by the Province of British Columbia includes six critical elements:

**Local area description** – Clearly set out the area assessed, review past fire impacts and identify linkages of the Plan to other community plans and policies.

**Values at risk** – Identification of population at risk, assessment of critical infrastructure, review of housing stock characteristics and vulnerability of major employers.

**Wildfire threat and risk** – Analysis of fire threat, review of fire history and verification of fuel type and topography, including consideration of climate change.

**Risk management and mitigation factors** – Options to apply FireSmart disciplines to manage available fuel in or near the community and engage the public.

**Wildfire response resources** – A detailed assessment of the capacity to manage fire risk in the community, evacuate those at risk and protect structures.

**Recommendations** – Plans set out specific recommended actions that should be implemented by the community and other stakeholders over several years.

A Community Protection Plan sets out a detailed understanding of the risk and provides specific recommendations for wildfire risk reduction actions designed for the unique needs of the community. The Plan provides the foundation for strong local leadership through its description of the risk and identification of solutions proven to reduce the risk. The Plan also provides a platform for community engagement. Risk reduction actions by many stakeholders unite in a shared strategy to better protect the community.

## **PRIORITIES FOR ACTION**

The Institute for Catastrophic Loss Reduction, the Government of Canada, some provincial and local governments endorse the Sendai Framework for Disaster Risk Reduction. The Framework sets out that meaningful reduction in disaster risk is possible through a focus on four priority issues. The Institute focuses on these four priorities:

- *Build back better in recovery*
- *Better understand disaster risk*
- *Strengthen disaster risk governance*
- *Invest in disaster risk reduction*

The seven disciplines of FireSmart and the six elements of a Wildfire Community Protection Plan are consistent, in our opinion, with the Sendai Framework for Disaster Risk Reduction. The Protection Plan provides a rigorous assessment of risk in the community and options for risk reduction, the two critical elements involved in understanding the risk. Stronger risk governance involves establishing collaborations with clear delineation of responsibility and elimination of gaps, core elements of the FireSmart disciplines and the process of developing a Community Protection Plan. Moreover, FireSmart and Protection Plans are unashamedly focused on promoting risk reduction actions and this is consistent with the Sendai priority of investing in disaster risk reduction.

FireSmart and Community Protection Plans have been used to support the building of wildfire resilience in recovery from losses in Kelowna, Slave Lake and Fort McMurray, although there is scope to do more. Experience in the United States and Japan finds scope for transformative increases in resilience following major loss events. This requires a commitment to pre-disaster recovery planning, a concept that is emerging in Canada. Wildfire Community Protection Plans contain many elements required if a community were to develop a pre-disaster recovery plan.

## HOMEOWNER PARTICIPATION

An essential element of community protection from wildfire requires the active participation of homeowners in risk reduction activities. If some property owners do not participate then fire may enter the community and spread to bring harm to others. Many years of experience continues to find it difficult to secure widespread homeowner participation.

Most programs focus, as set out by FireSmart, on vegetation management and structural issues. Public education, awareness and outreach seeks to empower homeowners. These programs are effective in reaching some homeowners and have reduced community risk. However, experience in Canada, the United States and elsewhere finds that most homeowners fail to participate. Awareness programs are a step forward, but time will demonstrate that additional measures will likely be required.

Several communities, including Logan Lake and Canmore, provide a FireSmart home assessment at no cost to the homeowner. Homeowners learn about the risk of damage to their property and action that can be taken to reduce the risk. This practice is encouraged for all communities. Homeowners willing to request an assessment are motivated to also take action to reduce their risk if informed. However, many homeowners do not request an assessment and additional measures are typically needed.

Many communities across Canada have enacted local regulations for new construction in zones with higher risk. This includes requirements for vegetation and structures. Several communities report that these safety requirements have typically been welcome by builders and new residents. National and provincial wildfire building codes would accelerate this progress. However, these improvements frequently apply only to new construction.

Swan Hills was likely the first community in Canada to enact local wildfire safety requirements for vegetation and structures that applies to new and existing properties. Canmore noted that public awareness efforts help address challenges to enforce wildfire safety measures for existing homes. More communities should consider wildfire safety requirements that extend to existing properties and structures.

Communities that choose to require that homes maintain a protection zone around them and install fire resistant roofing and other structural safety measures also would secure increased support from most insurance companies. If a home with insurance is destroyed by wildfire it typically would be rebuilt to be similar to what was in place before unless there are provincial or community requirements for additional features that were not previously present. For example, if a home with an untreated wood shake roof is destroyed by fire it will be replaced by a home with a fire-resistant roof

if that is required by provincial or local regulations. Homes will be built back better after a fire if these requirements are included in regulations before the fire.

## **RISK MANAGEMENT**

Wildfire is one of many risks facing communities. Ideally it should be assessed and addressed like other risks. Four critical actionable elements that should be included in a comprehensive strategy to build a community resilient to damage from wildfires are:

- *Determine acceptable risk of loss*
- *Assess the risk of loss and damage*
- *Invest in risk reduction*
- *Plan for recovery and reconstruction*

### **Determine acceptable risk of loss**

The risk of loss from wildfires can be reduced, but not eliminated, so community leaders need to determine the level of protection that is acceptable. For example, the risk tolerance statement for the District of North Vancouver focuses on the maximum acceptable risk of disaster fatalities. The flood risk tolerance statements established by provincial governments focus on the likelihood of loss. In private industry, risk appetite and tolerance statements often include a focus on the maximum dollar value of acceptable loss. Local efforts to champion risk reduction investments could include a requirement that each proposal must include an assessment of the cost and projected benefits, with an expectation that the benefits will exceed the cost.

### **Assess the risk of loss and damage**

A community wildfire assessment provides an essential foundation for action. It assesses the risk of fire entering the community and recommends specific risk reduction solutions. Comprehensive plans may include estimates of expected losses if no action is taken and project reduced losses if risk reduction measures are implemented. Local leaders can contrast this information with available knowledge about other risks facing the community to support decisions about the relative importance of action to reduce the risk of fire damage. Risk management tools can be powerful to support decision makers.

### **Invest in risk reduction**

The benefits to the community begin immediately when investments in risk reduction are implemented. Fuel reduction is needed in the community and near the community. This must involve community land, Crown land and private property. Structures must be fire resilient. Broad participation is needed across the community for these measures to be most effective. Implementation of a community protection plan based on the seven disciplines of FireSmart will reduce fire risk.

## **Plan for recovery and reconstruction**

One of the best opportunities to promote community resilience is during the reconstruction that follows a wildfire. There is a 12-to-18-month period after a disaster when public support for risk reduction investments is very high. Implementation of significant resilience initiatives soon after an event requires planning that takes place before the disaster strikes. A wildfire hazard community protection plan can be adapted to form a recovery plan that includes a vision to build back better. For example, the cost of moving critical infrastructure out of harm's way may be high relative to the expected benefits when the facility is operating, but if the facility is destroyed by fire the additional cost of relocation may become trivial when funds must be found for reconstruction. The important element of recovery planning is to anticipate and evaluate options for reconstruction, options that may not be available before a disaster strikes.

## **BEST PRACTICES**

Proven solutions will reduce the risk of loss and damage for communities located in the wildland-urban interface. Committed local leaders willing to own the issue can implement measures that are effective in reducing the risk. The 20 communities identified in this report demonstrate the progress that is possible. Sustained, bold action will result in avoided loss and damage and communities better prepared for wildfire. Canada's national program – FireSmart – can help guide communities. Much work remains to be done, but the path forward is known, and several communities are moving forward. The Institute for Catastrophic Loss Reduction celebrates local governments who are leading the way.