

PROPOSAL:

BOW VALLEY COMMUNITY WILDFIRE PROTECTION SOCIETY

Memo to: XXXXXXXXXXXXXXXXX <2025-07-09 version>
 XXXXXXXXXXXXXXXXX
 XXXXXXXXXXXXXXXXX

Issue: In 2025, federal, provincial and municipal organizations have taken the threat of wildfire in the Bow Valley seriously. These organizations need secure long-term funding and a coordinated approach to sustainably maintain fire breaks, forest thinning, and other “FireSmart” initiatives for the next 20-25 years.

Background:

- The Bow Valley (Lake Louise to Exshaw/Lac des Arcs) is a unique area with over 90% of the landscape legislated as national or provincial park lands with objectives of maintaining natural forests, wildlife habitat and providing outdoor recreation opportunities.
- The economy of the valley is almost totally dependent on tourism and an amenity/recreation lifestyle. Over 30,000 residents live in the valley, primarily in the towns of Canmore and Banff. Smaller residential areas include, Lake Louise, Harvie Heights, Deadman’s Flats, Exshaw and Lac des Arcs. On busy summer days, there are up to 100,000 residents and visitors in the Bow Valley.
- The valley bottom is also home to significant national and regional infrastructure (e.g. Trans-Canada Highway, CPKC mainline, Altalink transmission lines, ATCO gas pipelines and several telecommunication systems).
- Historically, wildfires were common in the valley’s montane and sub-alpine forests with a fire frequency from 20-200 years, depending on elevation and aspect. Relentless fire suppression has greatly reduced the number of fires over the past 100 years. However, the ongoing accumulation of forest fuels and higher fire weather indices have created conditions for large high intensity fires that threaten public safety and the destruction of buildings, homes and infrastructure (See Appendix A for a summary of the fire history and fire mitigations in the Bow Valley).



Mount Norquay from Tunnel Mtn in 1888
(J.J. McArthur, MLP e002506995)



In 2008 (MLP-B0002604)

Figure 1. Forest cover changes near Banff townsite and on Mount Norquay during the period 1888 to 2008.

Considerations:

- Archeological evidence, oral history accounts from Indigenous Peoples and historic photographs reveal that the montane habitat in the Bow Valley was a much more open landscape with large grass meadows and mixed forests of aspen, lodgepole pine and Douglas fir trees. Forest fires were frequent but often low intensity. Today's montane habitat is dominated by a 125-175 year-old lodgepole pine forest with few if any meadows or mixed wood forest.
- Over the past 25 years, high intensity wildland urban interface fires have become more common in British Columbia and Alberta (e.g. Slave Lake, Fort McMurray, Lytton, West Kelowna, and Jasper). Despite numerous public inquiries, recommendations to "FireSmart" communities have been slow to implement. Fortunately, Bow Valley communities have finally taken a concerted effort to enact "FireSmart" guidelines.
- According to the Town of Banff website: "Bow Valley agencies have established a team of experts (Bow Valley Interagency Wildfire Committee) to coordinate wildfire mitigation efforts across the region and maintain training and planning in preparation for emergency response in the Bow Valley." Although we applaud the work to create this

committee, it is not clear how it is governed, makes decisions or whether it will exist in the coming years.

- Historically, federal and provincial funding to plan and execute the preparation of fire breaks and fuel thinning is not a standing budget item that is approved every year. Ironically, the costs of providing a yearly source of funds to do such preventative and proactive work is very small compared to the emergency funds spent every year fighting wildfires, especially those that threaten nearby communities.
- Nevertheless, some innovative business practices have been employed by Parks Canada and the Province of Alberta over the past 25 years to enable the creation of fire breaks and fuel thinning. Both organizations have permitted commercial logging companies to harvest trees in protected areas. The sale of the felled trees to the companies has generated income. Unfortunately, that generated income usually ends up in the Consolidated Revenue Funds of the province or federal government. There is no “line of sight” between the income generated being returned to the region for additional fire mitigation work. Consequently, the subsequent costs of maintaining a fire break or the annual work of fuel thinning becomes a new expense that must be advocated for as part of the annual budgeting process.
- Fire breaks that are neglected or not maintained soon become a source of fuel vs. a critical stop sign for an advancing fire. Like other ongoing FireSmart work done within communities, fire breaks and fuel thinning operations must be maintained. They are essential infrastructure that protects communities and outlying commercial buildings and facilities. They are also important backstops for performing prescribed burns in adjacent natural forests.
- The risk of wildfire in the Bow Valley is substantial. Fire risk is ongoing and requires continual work and funding to not only apply FireSmart guidelines in communities but also conduct fuel thinning and create fire breaks several kilometres from communities.

A sustainable approach for Bow Valley Forest and Fire Management:

- We propose creating a registered Not-For-Profit (NFP) society that would take the current best efforts of the Bow Valley Interagency Wildfire Committee and formalize its purpose and structure. The goal of collaboration with its existing partners would continue with the added benefit of a secure and long-term source of funds to manage its work.
- As a NFP it will have more options for securing funds from the three levels of government (e.g. grants, cooperating agreements or annual allocations) plus seeking the support of other organizations and the public at large. It is likely to be considered a more “grassroots” or community-minded group.

- A NFP society can work with “fiscal agents” such as the three levels of government to access grant funding from private or public foundations.
- The xxxxxxxx Foundation is a public foundation that could work with the NFP society to create an endowed fund that could receive donations from corporations, foundations and individuals and grants from other foundations and levels of government.
- The Foundation has experience in creating suitable “restricted funds” and has independent financial advisors who professionally manage its investments. A sustained distribution of funds to the NFP society or qualified donors would enable the society to conduct its work over the long term vs. having to manage pulses of funding.
- The sale of harvested trees (e.g. lumber, salvage, split firewood) could also become a source of income to the NFP society rather than seeing the generated income returned to the Consolidated Revenue Fund of the province and federal governments.

Next Steps:

1. Revise this memo based on comments and suggested changes from the xxxxxx Foundation.
2. Present a revised draft to key partners of the Bow Valley Interagency Wildfire Committee (e.g. Province of Alberta, Town of Banff, Town of Canmore, Parks Canada) for their initial comments.
3. Based on feedback received, develop a more comprehensive presentation to key decision makers.

From: xxxxxx (Senior Park Adminstator (retired))
xxxxxx (Senior Investment Advisor (retired))
Cliff White (Retired Park Ecologist)

Appendix A: Fire History and Mitigations in the Bow Valley

Fuel Breaks and FireSmart Landscapes

Community protection requires an integrated approach “from your roof to your region”. Several zones of protection are needed with the priority being “firesmarting” structures and properties within urban areas and managing fuels in the immediate town periphery greenbelt (Figure 2). At greater distances, forest management can be less intensive using a mixture of fuel breaks, forest thinning, and prescribed fire.

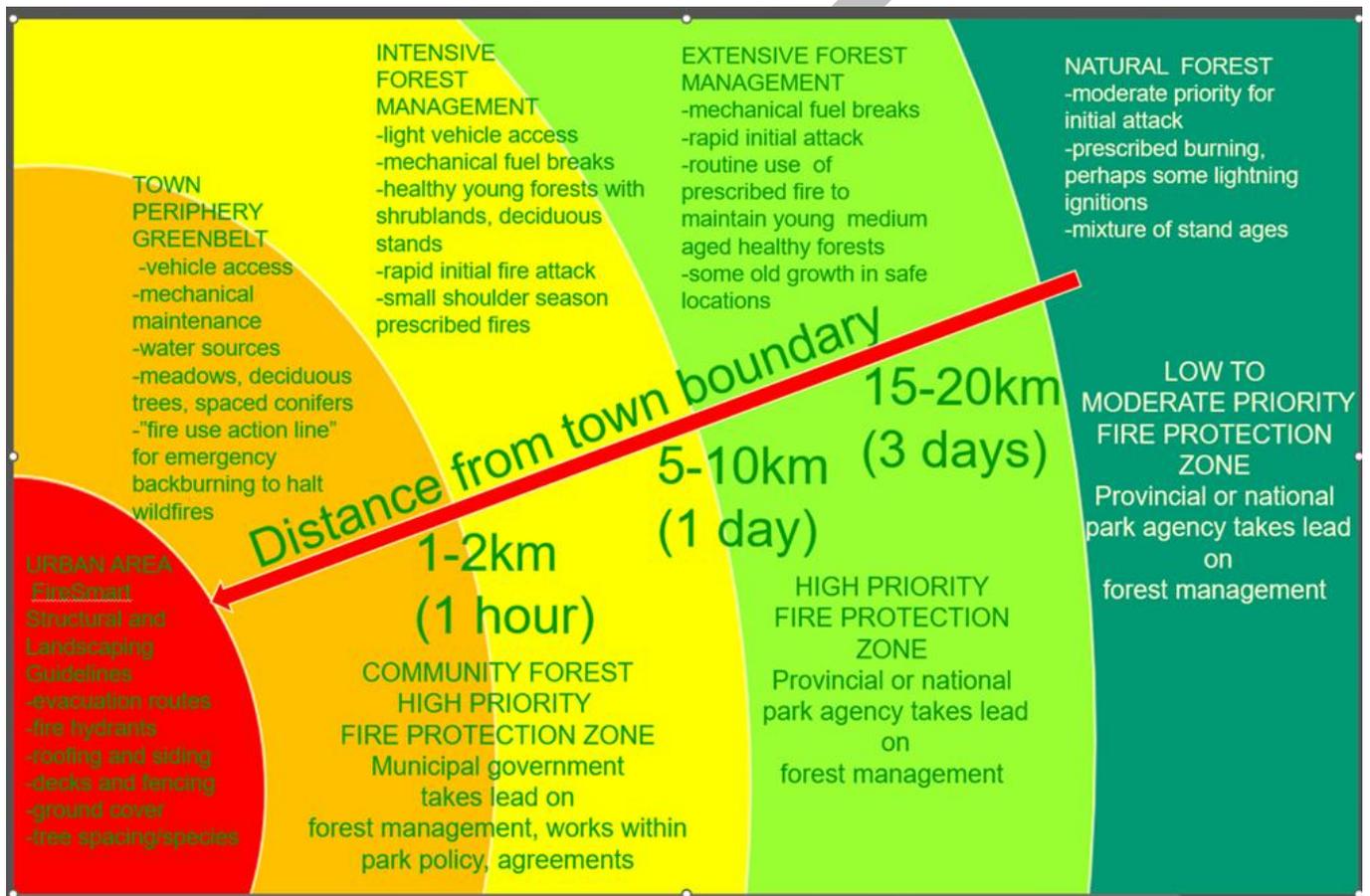


Figure 2. FireSmart urban and forest management protection zones with approximate time for fire to reach town boundaries during extreme conditions.

Fire History

- Fire and Fuel breaks have a long history in the Bow Valley (Figure 3). Several periods can be recognized: Indigenous burning in the pre-European period. Indigenous people routinely used fire to both maintain habitat and protect their campsites from more intense fires later in the fire season. For example, the Indigenous campsite on the lower slopes of Mt. Norquay was a frequent location of Indigenous burning maintaining grasslands, aspen stands, old growth, savanna Douglas fir that protected the campsite and adjacent natural resources (wildlife habitat and plants).
- In 1889 a wildfire descending the Bow Valley narrowly missed the newly constructed Banff Springs Hotel. As a result, a wide swath (about 200m) was cut around the hotel on the lower slopes of Sulphur Mountain.
- In the period 1913-16, after persistent efforts from Banff residents, about 10 km of fuel breaks were built on Sulphur Mountain and in the Spray Valley largely with the labour of “enemy aliens” held by the War Measures Act.
- In the period 1934-43 the above fuel breaks were expanded with labour from Depression Relief and Alternative Service programs.

More Recent Programs

- In the 1980’s Parks Canada began using prescribed fire to restore montane ecosystems that were fire dependent. A good example is the Sawback prescribed fire along the north side of the Bow Valley Parkway.
- In the 1990’s Parks Canada and Alberta agencies built a series of containment fuel breaks were built along the eastern park boundary or in other critical areas. Unlike previous breaks, these have largely been used as containment lines for larger prescribed fires, facilitating ~20,000 ha of ecosystem restoration. These breaks also allow prescribed fire use nearer to towns or values at risk during periods of lower fire danger.
- In the early 2000’s, Parks Canada promoted a major prescribed fire program on the Fairholme Bench between Johnson Lake and the east boundary of the park near Canmore to slow the eastward advance of mountain pine beetles, reduce wildfire risk and improve the quality of the montane habitat. A fuel break was built in 2001-03 with extensive forest harvesting.
- In 2003, under favourable conditions the Fairholme Prescribed Fire was conducted.
- Additional fuel breaks and prescribed fires have been conducted in the upper Spray Valley, Sawback Rangen and the Cascade meadows.
- In the winter of 2024-25 the Town of Canmore and Alberta Provincial Parks began to construct further fuelbreaks upwind of the town.

- See map below (Figure 3) for the location of historic, existing and proposed fuel breaks and past prescribed fires.

Technical Considerations

- **Design and Purpose:** Fuel break location, width and tie off points are largely dependent on weather analysis, terrain and fuels. For example, a fuel break that may have to contain a wind-driven wildfire during an extreme burning period (e.g. generally from the W or SW) will be wider (~.5-1 km/ than a break that will be used immediately after for a prescribed fire. Fuel breaks will contain flanking or backing fires depending on prevailing fire winds can be narrower. Design should plan haul roads, skid trails or handline that can be used in construction, maintenance and operation phases.
- **Construction:** Large amounts of potentially commercially valuable wood, and wood waste (slash) are often generated. Haul roads and skid trails taking logs to the mill should be designed for follow-up disposal of slash by means such as piling and burning, or broadcast fire during low fire danger conditions;
- **Maintenance:** Fuel breaks require maintenance. If grass and meadow conditions are desired, a first pass of prescribed fire or mowing (using skid trails etc. placed in design and construction phases) should be done within five years to remove immediate tree regeneration. Further maintenance may be required every 5-10 years depending on location. Wherever possible, staff that will be involved in operational use of the fuel break should do maintenance to familiarize themselves with the location and potential fire behavior.
- **Routine and Emergency Operations:** Fuel breaks are optimally used for prescribed fires with favorable winds and fuel conditions, but could be an essential feature for control in a wildfire event. Guidelines for use and maintenance should be kept up to date. The Bow Valley Interagency Wildfire Committee can buildoff this experience for future fuel break design and use.
- See graphic at end for further details on fuel breaks.

“A Good Fuel-break is a Forever”

- Like the ongoing FireSmart work done within communities that must be maintained in perpetuity, fuel-breaks are the essential infrastructure that both protects communities and other infrastructure while allowing carefully managed wildland fire regime to occur in the adjacent natural forest.

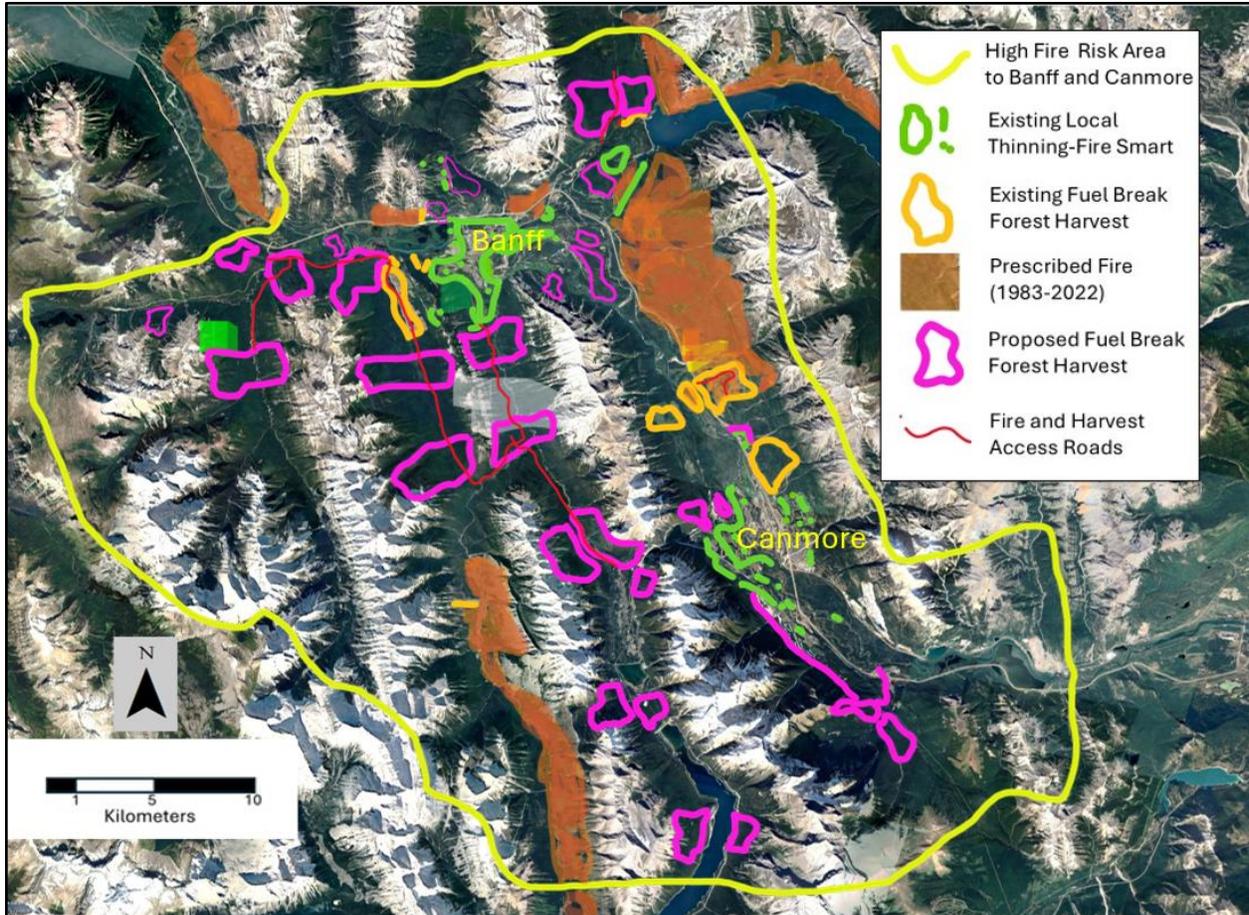


Figure 3. Existing and proposed forest management in the Bow Valley and peripheral high risk areas.