

## World Planners Congress Sustainable Urbanization Congrès mondial de l'urbanisme L'urbanisation durable



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Dear <sup>Greg</sup> Mr. Hofmann,

Many thanks for your article entitled "*Planning for Wildfire*", published in the enclosed issue of *Plan Canada*. On behalf of the Canadian Institute of Planners (CIP) and the Plan Canada Editorial Board, I am pleased to convey our sincere appreciation for the quality of your submission and the valuable information that it provides as an information resource for the CIP membership.

Perhaps the most significant aspect of being published is the longevity of the works. In particular, the publications of professional institutes such as CIP provide a vital archive of professional knowledge and serve as a useful resource for professional practice. Entry-level and practicing planners alike can and do draw from the professional insight and experience that is carried in the pages of *Plan Canada*.

In addition to taking pride in your published work, you can also take satisfaction from your role in adding to the body of knowledge available to the planning profession.

Sincerely yours,

  
Steven Brasier, CAE  
Executive Director



# Planning for Wildfire

by Greg Hofmann and Russell Dauk

## Summary

Communities around the world are struggling to deal with wildfire in the Wildland Urban Interface (WUI) - where human development meets undeveloped/wildland vegetation. With every wildfire event we see how readily fire suppression efforts are overpowered. Since wildland areas do not neatly mesh with our geopolitical boundaries, dealing with WUI fires necessitates a coordinated, collaborative and planned response engaging all levels of government as well as many interested organizations, businesses and agencies. Decision makers, planners, fire officials, communities, neighbourhoods, businesses and individuals all need to take responsibility and deal with this issue in true partnership.

## Sommaire

Les collectivités du monde entier éprouvent des difficultés à composer avec les feux de forêt et de végétation qui touchent la zone d'interface urbaine – la frontière entre l'activité humaine et la végétation des terres en friche. Avec chaque incendie, on constate à quel point les systèmes d'extinction peuvent être rapidement dépassés. Puisque les zones sauvages n'épousent pas sagement les limites géopolitiques fixées par la présence humaine, la gestion des feux de forêt et de végétation nécessite une intervention coordonnée, concertée et planifiée de tous les paliers de gouvernement ainsi que des organismes, des entreprises et des agences concernés. Les décideurs, les planificateurs, les responsables des services de lutte contre les incendies, les collectivités, les quartiers, les entreprises et les citoyens doivent tous prendre leurs responsabilités et aborder la question en partenariat.

A close call for a home in a wildfire area.



Wildfires in the Wildland Urban Interface (WUI) have traditionally been seen as unplanned incidents for which emergency response is required to protect lives and homes. With the frequency of WUI fires increasing along with the risk of experiencing catastrophic loss when emergency response is overwhelmed, those involved in wildfire suppression, who pride themselves on their ability to save lives and protect property, are saying they can no longer continue to manage an ever-increasing WUI fire hazard without a major change in this traditional perspective. In short, they are asking for – and need – planning solutions. We need to listen and focus our attention on planning to minimize wildfire risk and loss.

Wildfire in the WUI is a man-made problem. Settlement patterns, land use policies, agricultural and forest management practices, and the accommodation of individual preferences have combined to create interface hazards that would otherwise not exist. Our tremendous success in fire suppression has fooled us into believing we can continue to create WUI without significant consequence; however, we now understand that our ongoing suppression efforts are affecting our environment and the health of our forests. Successful fire suppression, over time, has significantly increased fuel loads and ultimately resulted in increased fire risk and the potential for catastrophic fire.

Planners have a major role to play in addressing risks from WUI fires. Our actions or recommendations can easily make the situation exponentially worse for fire fighters, or we can begin to make changes that will reduce hazards in existing situations and in new developments. We can raise questions concerning what

forms of WUI development can or should be accommodated. Planning must become fundamental to addressing this issue or the allocation to fire suppression will simply become unsustainable as we bring ourselves ever closer to catastrophic fire.

### Extent of the Problem

In Canada, between 1980 and 2003, there was an average of 8,500 forest fires per year burning an annual mean of 2.5 million hectares. These fires placed an average of approximately 20 communities and 70,000 people at risk each year. Annual fire suppression costs range from \$0.5 - \$1.0 billion annually.<sup>1</sup>

Canada faced an unprecedented WUI fire season in 2003. Over 50 communities were at risk, resulting in over 50,000 evacuees. Three hundred and fifty homes and businesses were lost. Suppression costs exceeded \$1.0 billion. Personal damages exceeded \$200 million and federal disaster relief exceeded \$300 million.<sup>1</sup>

Even at these levels, compared to other parts of the world (e.g. Australia, Europe, the United States) Canada is fortunate as our WUI risk is still relatively small.<sup>1</sup>

### The Value of Forests

Our forests serve a critical ecological function in their capacity as carbon sinks and in maintaining water quality. They also serve as valuable habitat and as a much cherished recreational resource. Canada also supports an \$82 billion dollar forestry industry which employs hundreds of thousands of people and sustains more than 300 communities. These factors must be taken into consideration when we are considering additional development in the WUI. There are real social and environmental costs associated with high risk development in the WUI. There is more at risk than just country residences.

### Forest Management Challenges

With fully allocated forest resources there is an obvious challenge for forest managers when addressing the management of

fire. Our past fire suppression efforts have left us with mature forest stands which provide valuable timber but which are more susceptible to fire and disease. We are now realizing that fire has a significant value in renewing and protecting the forest environment. We need to manage fire rather than focus on full suppression.

When wildfire occurs in an interface setting our attention is always drawn to the property at risk and we lose sight of what is lost when resources are allocated to the protection of a few homes. We also ignore the fact that interface fires typically require 10 to 50 times the resources for suppression than non-interface fires. Resources dedicated to interface fires not only have direct economic costs. They also utilize resources that would otherwise be available to protect other forest values.

### The Planner's Role?

In response to recent severe fire seasons, the Canadian Council of Forest Ministers produced the Canadian Wildland Fire Strategy,<sup>2</sup> which is clear in its desired future state and its objectives.

The desired future:

*"Canadians will become knowledgeable about the role of wildland fire on the forest landscape, its characteristics, the capabilities of suppression, and the potential impact of fires on ecosystems, communities, and individual homes. Responsibility for development of resilient communities and for empowerment of the public is shared among individuals, communities, industries, and governments through a comprehensive set of actions in accordance with a risk management framework."*

Within the strategic objectives of the Canadian Wildland Fire Strategy, the objective for "**Resilient Communities and an Empowered Public**" creates a special role and responsibility for planners. The objectives are clear:

> *"Inform and engage the public through wildland fire awareness and information*

*initiatives and communicate the appropriate response concept to professionals, politicians, and the public."*

- > *"Share responsibility through development of integrated government policies clearly defining the risks, roles, and responsibilities of all constituencies (individuals, communities, industries, and governments)."*
- > *"Minimize the risk to public safety and property by developing and implementing a Canadian FireSmart initiative with distinct components addressing mitigation, preparedness, response, and recovery."*
- > *"Initiate a directed and integrated program of physical and social science research and technology transfer on WUI issues."*

The objectives of the Canadian Wildland Fire Strategy with regard to resilient communities and an informed public present a clear framework for the role of planners with regard to addressing WUI issues. The strategy is a call to action for planners.

### What Needs to be Done?

Planners need to:

- > **Understand the field.** Planners do not need to become experts in this field but we can easily become familiar with basic terminology and develop an understanding of WUI issues so that we can effectively communicate and work with the many others involved.
- > **Understand the issue in your context.** Armed with a basic understanding of WUI issues, we need to understand the local context. Local forestry, public lands and fire officials will be well aware of the WUI issues in the area and welcome dialogue with the local planner.
- > **Understand what is at risk at the local and individual site level.** Planners need to consider the effect increased WUI development has on fire suppression and mitigation efforts. Creating WUI may mean that forestry and fire officials lose the option of using prescribed burning, an

important fire management tool, or have no choice during fire events but to divert resources away from protecting forests to saving developments. Planners also need to become familiar with the wildfire hazard assessment tools available designed to implement FireSmart principles both at the site and structure level. In addition, planners should consider the use of FireSmart architectural controls (e.g. requiring FireSmart roofing material) which can withstand almost all but the most severe hazards and greatly reduce the need for additional site improvements.

- > **Look for resources and models of success.** Excellent WUI planning resources produced in Canada are already available to planners. The FireSmart Manual,<sup>3</sup> published by the Alberta-based "Partners in Protection", now has a worldwide distribution of 22,000 copies. The principles embodied in the FireSmart Manual now underpin the Canadian Wildland Fire Strategy, described earlier. Many other resources that are available worldwide can help planners become involved in – and better equipped to – handle WUI issues.
- > **Examine existing policies and development standards that create new interface hazards.** Policies in place to serve other objectives may be causing significant WUI risks. Perpetuating large-lot country residential subdivisions leads to increased sprawl and WUI risk. Promoting clustering in subdivisions reduces the WUI area while providing the economics for water systems, dual direction access and the creation of defensible space around the subdivisions. Conservation-design based subdivisions can be very successfully integrated with wildfire risk mitigation objectives.

## Some Final Thoughts

There is a need to rethink the traditional Canadian approach to wildfire control. We know that we cannot effectively suppress all fires through emergency response. We know that this situation is likely to worsen with the expansion of interface communities, decline in forest health and climate change. We know we are losing valuable habitat, recreational value and timber resources as we concentrate our efforts on protecting interface communities. We know that interface fires are extremely costly to fight and are requiring public funds that could be allocated elsewhere. Notwithstanding the heroism of those who fight forest fires, our long-term objective ought to be making each new development capable of surviving a fire without the need for fire suppression intervention. This can only be achieved through planning. Addressing WUI issues from a policy or regulatory perspective alone is not good enough. Building FireSmart communities will come from genuine effort and the search for workable solutions on the ground, not just developing and upholding policy. Even relatively small measures can have significant benefits and create more resilient communities. ■

**Greg Hofmann, ACP, MCIP**, is a planning consultant based in Alberta and contributed Chapter 7, entitled *Land Use Planning*, in "FireSmart: Protecting your Community from Wildfire"; more commonly known as the *Partners in Protection FireSmart Community Planner*.

**Russell Dauk, ACP, MCIP**, has managed planning departments in several municipalities with significant WUI. He currently manages a land development company based in Edmonton. The *FireSmart Community Planner* was initiated when Russ was *Partners' President*.

An Award of Merit from AACIP was granted to both authors for their contributions to *Partners in Protection* and the *FireSmart Community Planner* (distribution: 22,000 worldwide, including interactive DVD).

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## References

1. Canadian Wildland Fire: A Vision for an Innovative and Integrated Approach to Managing the Risk. A presentation to the MAWF – 1<sup>st</sup> Fire Behavior and Fuels Conference, March 2006.
2. Canadian Wildland Fire Strategy: A Vision for an Innovative and Integrated Approach to Managing the Risks. A report to the Canadian Council of Forest Ministers, prepared by the Canadian Wildfire Strategy Assistant Deputy Ministers Task Group; 2005.
3. FireSmart: Protecting Your Community from Wildfire. Partners in Protection; 2003.