

AN UPDATE ON THE CANADIAN WILDLAND FIRE STRATEGY (2008/2009)

Background/Context

Fire has been a dominant feature in Canada's forests since the last Ice Age, particularly in the vast boreal region that stretches from the Yukon to Newfoundland. Many plant species – such as pine, spruce and birch – have not only adapted to fire but rely on it for their renewal. Fire has also created a mosaic of habitat types and ages, which are needed by various animal species. Wildfires burned freely in most of Canada until the late 19th century when European-influenced views of fire and forestry resulted in policies that sought to suppress all fires. There has recently been growing recognition that the elimination of all fires from our wildlands is neither ecologically desirable nor economically possible.

On average, 8 600 fires burn 2.5 million hectares each year across the country. Even with Canada's globally recognized fire suppression capabilities, the annual direct cost of suppressing these fires ranges between \$400 million and \$1 billion. In addition to these direct fire fighting costs, wildfires can impact the economy, threaten public health, safety and infrastructure, and they are responsible for a significant contribution to Canada's GHG emissions. Canada experiences significant annual fluctuations in the severity and location of wildfire activity. For example, the 2008 fire season was worse than normal in the Maritimes, extremely mild in the east and average in the west. Next season is guaranteed to provide different challenges. The wildfire response agencies are organized to deal with this seasonal variability; they are not prepared for new dimensions to these challenges such as climate, demographic, economic and industry change, which have already tested them and will continue to require the exploration of new solutions.

A need for greater interagency and intergovernmental co-operation along with shared technical standards was identified in 1999; this approach is also a way to improve the efficiency and effectiveness of wildland fire management across Canada. Development of a Canadian strategy was endorsed by the Canadian Council of Forest Ministers (CCFM) after the 2003 fire season in western Canada when hundreds of homes were lost, tens of thousands of people evacuated, hundreds of millions of dollars of personal property damage incurred, and \$1 billion in suppression expenditures amassed. A task group of senior officials was charged with the development of a strategy to address the following challenges:

- Managing public risk and expectation in the wildland-urban interface;
- Forests under stress;

- Competition for the forest land base;
- Public expectations in resource management;
- Climate change; and
- Aging infrastructure of forest fire management agencies.

The work of this task group culminated in the Canadian Wildland Fire Strategy (CWFS) and its goals: resilient communities and an empowered public; healthy and productive forest ecosystems; and modern business practices.

The CWFS established the goals necessary to protect lives and wildland resources across Canada, and made a commitment to actions that address escalating risks, expectations and costs. This update provides a summary of how far we have come and how far we have yet to go to reach the three strategic goals of the CWFS adopted in 2005. All provincial/territorial jurisdictions have made some progress, within their limited resources, on the implementation of the CWFS, but the comprehensive CWFS implementation plan and cost sharing agreement envisioned in 2005 has not been achieved.

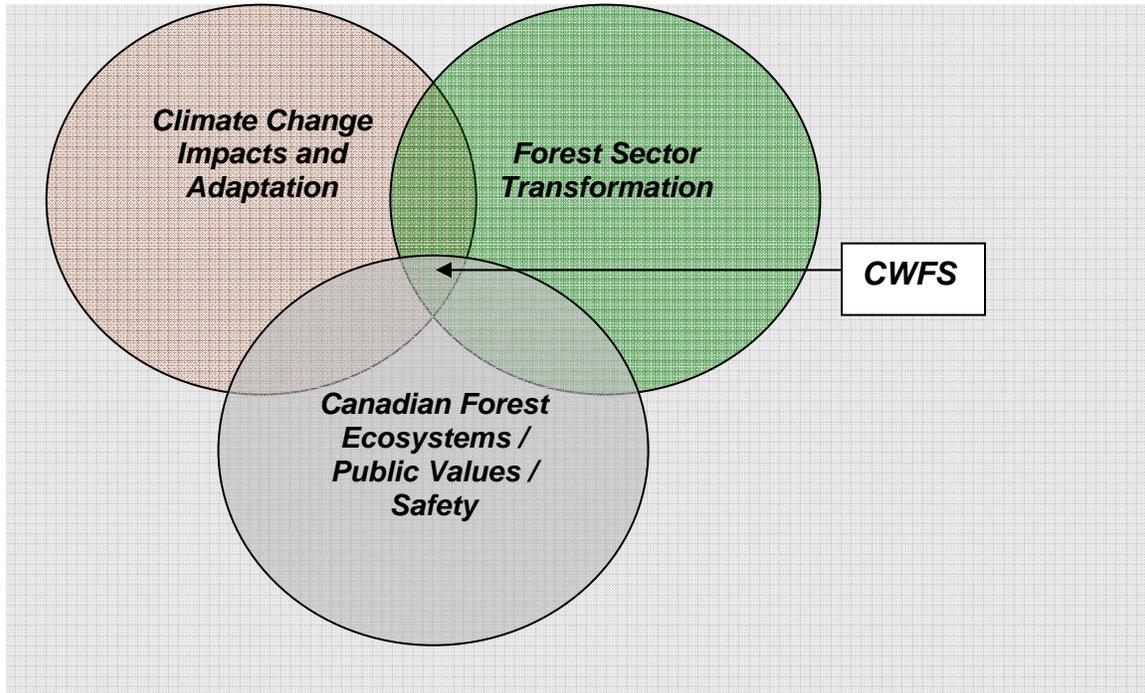
Canada's Wildland Fire Strategy and emerging issues

At the 2005 CCFM meeting the CWFS received a declaration of support signed by ministers of all Provinces, Territories, and Natural Resources Canada. An implementation plan was developed based on a 50/50 cost sharing arrangement between the federal and provincial/territorial governments. It was anticipated that an investment of up to \$230 million annually for up to ten years would be required to fully implement the Strategy, which focused on four strategic objectives:

- 1) Public education/awareness and policy/risk analysis;
- 2) FireSmart programs for the wildland-urban interface (WUI);
- 3) Preparedness and response capability; and
- 4) Innovation (sociology and the humanities, economics, biophysical, and decision support systems).

Much has changed since the declaration was signed in 2005, including increased public and political interest in climate change, transformation of Canada's forest industry and the current global financial crisis. These broader issues may place a different emphasis on certain aspects of the CWFS, but only re-emphasize the need to implement its objectives. To be successful, the CWFS needs to be embedded within a larger forest management strategy, as illustrated below.

Position of Canada's Wildland Fire Strategy in relation to Emerging Issues



The elements included here represent those that affect fire management and implementation of the CWFS.

“The Vision for Canada’s Forests-2008 and Beyond” produced by CCFM in 2008 states that Canada will strive to be the best in the world in sustainable forest management and a global leader in forest sector innovation. It recognizes that we must adopt innovative forest protection strategies to achieve these goals. Enhancing Canada’s forest fire management systems and capabilities will be vital to achieving the vision for our forests. The CWFS lays out the mechanism for strengthened fire management capabilities to enhance forest biodiversity, productivity and sustainability, to maintain economic and social stability in forest communities, and to address current and future challenges, such as climate change and forest sector transformation.

This report summarizes our milestones; however, it is most importantly a renewed call to action aimed at garnering public and political awareness and support. Political engagement and public support are paramount now. The innovation and evaluation that are essential to ensuring the continuous improvement of wildland fire management policies and practices across Canada start with the CWFS and the long-term commitment, philosophically and financially, to its full implementation.

Acknowledging the Impacts of a Changing Environment

The challenges facing our country with regard to wildland fire management are substantial, spanning a vast number of jurisdictions, markets and resources. Climate change, accelerating public concern and forest sector transformation have broadened this scope even more since the most recent 2005 CWFS commitment.

Climate Change

Climate change has a direct and sometimes dire connection to wildland fire behaviour and consequence. Individual governments are acting to mitigate and adapt to the increasing effects of a now universally recognized and globally manifested dilemma. Canadians and their governments are adjusting behaviours and policies, recognizing their limitations and the need for maintaining the current health of our ecosystems, air and water resources.

Climate change will have significant impacts on Canada's forests. The Canadian Forest Service has used General Circulation Model projections for the 21st century in its forest fire models to estimate that by 2040 Canada will be experiencing significantly increased fire occurrence and fire spread potential, based on climate change impacts on temperature and precipitation patterns. In 2006 Ontario used these estimates within its level of protection analysis system to gauge the impacts of this increased fire activity on Ontario's suppression capabilities and success in containing wildfires. It was predicted that in order for Ontario to maintain its current level of fire response success in this projected more severe fire regime, it would need to double its fire suppression resources. Canada's fire management agencies are struggling to address and fund components within their budgets that will satisfactorily keep up to the effects of climate change, such as longer fire seasons, deteriorating forest health and increased fuel loading.

These examples are indicative of changing conditions throughout Canada. When public health and safety are factored in, it is critical to recognize that most communities threatened by wildland fire are in regions where areas burned are projected to increase 50-200% as a result of climate change. A comparable increase in evacuations, costs and health impacts can be expected.

Public Concern

A recent and rapid expansion of communities into the Wildland-Urban Interface, which is the area where the forest meets community development, has amplified safety risks to the public and emergency responders. In the USA it is estimated that 60% of new homes are

in the WUI. In Canada an average of 20 communities and about 70,000 people are threatened by large fires annually and an average of 5,500 people are evacuated from 10 communities per year. The safeguarding of lives will always be the topmost priority in wildland fire response. In order to meet this fundamental expectation despite an increasingly complex fire environment, the CWFS calls for actions that improve security and safety in the WUI, such as building codes, municipal zoning, and other potential hazard mitigation initiatives. For example, it has been calculated that the community protection program in BC, which is a key recommendation in that province's 2001 Auditor General's report and 2003 Firestorm review, will take over 100 years to implement at current rates.

The indirect impacts under certain conditions of wildland fire, such as smoke related health concerns, are also considered in the CWFS. Fire managers put considerable effort into managing smoke on both prescribed fires and wildfires. Despite this, there is a correlation between fires affecting northern aboriginal communities and an increasing number of major smoke-related health issues. Furthermore, Canadian wildland fire smoke is increasingly affecting air quality in urban centres even though these areas are often far removed from fires. The future of wildland fire management must acknowledge and responsibly consider the growing evidence that smoke mixed with urban pollution creates a significant health risk in highly populated cities.

Forest Sector Transformation

Although human life and safety are the main priorities in wildland fire management, there are other important functions of fire management policies and practices. Protecting valuable natural resources, supporting the forest industry, and offering protection to industrial and infrastructure values such as railways and power lines are also a mandate of wildland fire managers. Keeping up with external changes such as a forest industry shift to include a focus on bio-energy along with timber production, and forest health epidemics including the mountain pine beetle and other pestilence, means fire management costs are rising while budgets remain constrained. Suppression effectiveness is nearing physical and economic limits, demanding an even greater level of cooperation and/or a shift in our fire management approach, where fire response becomes even more focused on values at risk, resulting in more escaped fires and larger areas burned.

Response Capability

Suppression capacity across the country is eroding as witnessed in aging equipment, declining aircraft availability and shifting personnel demographics. Though highly successful in our current tactically-based policies and techniques, response infrastructure

and equipment are up to 50 years old and taxed. Staffing for fire control will reach a crisis in the next 5-10 years with 72% of senior staff eligible to retire within 10 years and too few qualified personnel to replenish and/or mentor the vacancies. This stress is continually compounded with each passing fire season.

Demonstrated shortages were seen in 2006 when four western provinces were simultaneously experiencing severe fire activity while Ontario struggled with its longest fire season in decades. Across Canada, 11,000 people were evacuated from 34 communities. That July, it was determined that our country was 670 firefighters short of the level required to respond adequately to wildland fire; even secondary resources such as military forces were committed elsewhere. In a time when fire management agencies are relying on each other to an historic extent, all concede that the financial and operational sustainability of our collective suppression infrastructure is eroding. Maintaining the status quo – a limited focus on managing risk from wildland fire because of a reactive and non-integrated approach – is not a desirable option.

It is undisputed that fire seasons will test us more and more each year with climate change, public expectations, and forest sector transformation that are now part of Canadian fire managers' foremost concerns. For individual federal, provincial and territorial governments, the challenge threatens to exceed our capacity; however, the CWFS creates a framework within which we can collectively and cooperatively work to find solutions.

A Desired Future State: The Goals of the CWFS

Fire is a natural and essential part of Canada's forested landscape – appropriately managing fire requires balancing its natural role with the protection of human life, property and economic values. This equilibrium demands comprehensive risk management approaches including an appropriate mix of mitigation, preparedness, response, and recovery. The CWFS and its strategic priorities are becoming more vital in responding to increasing threats to public safety, security and health; aging wildfire suppression infrastructure; and an increasing need to sustain the natural role of fire in Canadian ecosystems. It is timely to celebrate what we have achieved to date while reiterating the importance of, and a unanimous commitment to, fully implementing this innovative and integrated approach to wildland fire management in Canada.

The vision of the CWFS is to ensure the safety of Canadians and the economic, social and environmental sustainability of our forests. Its goals are resilient communities and an empowered public, healthy and productive forest ecosystems, and modern business

practices. These strategic goals have been broken down into specific actions in order to be realized. Further, it is understood that while jurisdictional mandates will be respected, collaborative measures are needed to achieve our mutual objectives.

Resilient communities and an empowered public

- 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 pan-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 to ensure the Canadian public is kept continually informed on the evolving role of fire and fire management in Canada, with specific emphasis on the WUI.

Healthy and productive forest ecosystems

- Integrate land, forest, and fire management policies and practices such that fire management policies and actions are derived from explicit land and forest management objectives. In addition, ensure that land and forest management policies consider the biological, ecological, and physical characteristics of wildland fire;
- Reintroduce and/or maintain fire on parts of the landscape by appropriate means, including prescribed fire and the judicious use of wildfire, with the goal of maximizing biodiversity, ecological integrity, and productivity in fire-dependent ecosystems.

Modern Business Practices

- Maintain an economically efficient and world-class wildland fire preparedness and response capability through long-term replacement of deteriorating equipment and infrastructure, implementing Canadian training standards, and recruiting and training personnel at universities and community colleges;

- Develop innovative risk- and cost-sharing approaches consistent with insurance principles;
- Build effective partnerships and innovative institutional arrangements for reducing inter-annual variability of wildland fire management expenditures through the development and use of a Canadian interagency operational preparedness system, and foster effective communication and adaptive management through Canada-wide workshops and information-sharing sessions;
- Adopt a culture of continuous improvement in policy and practice by establishing a collaborative analysis group to carry out policy assessments and analyses of level of protection, and initiate a directed program of fire science and innovation coupled with a comprehensive program of technology transfer.

Progress to Date

Efforts to implement the CWFS have begun, but the progress made to date has been slower than anticipated. We have achieved some success in the areas of preparedness and suppression, and at the provincial and territorial levels some individual initiatives have been undertaken, but with only a 5% achievement of the Strategy's projected financial commitment. To the end of December 2008, provincial and territorial funding commitments reached a combined total of \$106M in contributions. These limited actions continue to validate the merits of the CWFS and the need for support for a unified plan that addresses the financial commitment on a pan-Canadian scale.

Within the confines of budgets available to the provincial and territorial agencies, the progress made on some components of the CWFS, is still falling far short of where the Strategy expected to be at the end of 2008 (*see table on page 10*). Accomplishments to date include:

- Revitalization of the Canadian Interagency Forest Fire Centre (CIFFC) and its new strategic direction;
- Development of a proposal for the expansion of FireSmart to a pan-Canadian program;
- Enhanced strategic cooperation on research, science and innovation;
- Development of a pan-Canadian training strategy;
- Provinces and territories have commenced aircraft fleet renewal to a limited degree.

Envisioned Funding Requirements for Implementation

In order to summarize progress and expenditures by agencies since the endorsement of the CWFS in 2005, individual jurisdictions were canvassed using a standard template, and their commitments rolled up to produce a pan-Canadian overview perspective. The following table summarizes financial commitments through 2007/08 for the four strategic objectives identified in the CWFS, against the projected 10-year expenditures envisioned when the CWFS was developed.

	Projected 10-Year Expenditures (2005-2015)	Proposed Funding Requirement for Three Years (2005-2008)	Actual Three-Year Commitment to Date (2005-2008)
Education/ Awareness & Policy/Risk Analysis	\$29.9M	\$9.9M	\$3.3M
FireSmart	\$885.3M	\$221.3M	\$15.7M
Fire Response Preparedness	\$1,361.3M	\$567.6M	\$86.3M
Innovation	\$49.8M	\$16.8M	\$5.4M
Total	\$2,326.3M	\$815.6M	\$110.7M
Provincial/ Territorial Contribution	\$1,437.1M	\$486.7M	\$105.9M
Federal Contribution	\$889.2M	\$328.9M	\$4.8M

Going Forward

The CWFS proposed a ten-year timeline in which to reach the objectives it sets out. As with any strategic process, a renewed vision at that time will begin the cycle again. Now into the fourth year of the CWFS with a solid plan and unanimous dedication, implementation must accelerate. While recognizing that the comprehensive funding envisioned in the 2005 Declaration has still yet to be achieved, in 2009 the CWFS task team intends to continue to focus on the objectives laid out in the Strategy. Measurable progress will be made in achieving each of these objectives through specific commitments to action:

Public education and policy/risk analysis:

- Strengthen the positioning of the CWFS as a Canadian public and political priority;
- Build understanding of the role of fire management in the vision for Canada's forests, and the interaction of fire, forests, carbon cycling and climate change;
- Build on existing interagency cooperation among all levels of government by developing a joint wildland fire policy analysis;
- Develop a pan-Canadian public awareness and engagement campaign to increase knowledge of the role, ecological value, and risks of wildland fire.

Wildland fire preparedness and response capability:

- Develop an analysis comparing CWFS implementation achievements against the increasing demands on fire management agencies;
- Develop an Interagency Wildfire Response Capacity and Advisory System which considers changes in federal, provincial and territorial response capacity and increasing demands;
- Refurbish and enhance Canada's aging suppression/response capability including infrastructure and staff;
- Conduct a pan-Canadian level of protection modeling exercise to help assess capabilities;
- Facilitate and enhance mutual aid and resource sharing in wildland fire preparedness and response capability.

Canadian FireSmart and landscape fuel management initiatives:

- Integrate wildland fire and fuels management knowledge and considerations into land/forest management;
- Promote an enhanced and expanded pan-Canadian FireSmart initiative;
- Increase fire management capacity among rural and aboriginal communities.

Innovation (sociology and the humanities, economics, biophysical, and decision support systems)

- Invest in the development and implementation of innovative and state-of-the-art approaches to wildland fire risk management;
- Promote the integrated role of fire management agencies, partners and the public in research, education and policy.

Call to Action

In order to achieve the critical objectives of the CWFS, a commitment of time, money and support is imperative. In these difficult economic times, and with many competing priorities, it is easy to lose sight of the importance of our continued dedication to the CWFS. However, in doing so, we become negligent in our service to the Canadian public, first responders and their families, and pan-Canadian growth. Climate change, public expectations, and forest sector transformation are impacting the already strained wildland fire management system in Canada and, now more than ever, we need to focus on moving a coordinated pan-Canadian strategy forward.

In order to re-energize the momentum of this initiative politically and publicly, we should recall the unity of purpose that led to the signing of the Canadian Wildland Fire Strategy Declaration in 2005. The Forest Ministers at the time made a commitment to engage their Premiers and Cabinet colleagues for political discussions at the Prime Ministerial level. We need to re-establish the CWFS initiative as a priority with all levels of government. Great strides can be made by continuing to support implementation of CWFS components and ensuring that its goals and objectives are achieved.

We are all accountable to the Canadian public, who are also essential to the collective success of managing the risks we face as a result of unwanted wildland fire. We all share in the results of healthy forests and safe communities. Although it may seem a small step, simply educating ourselves and our communities about the CWFS means we are closer to being an empowered and resilient nation, one of the strategy's keystone objectives. More information can be found at www.ccfm.org/english/coreproducts-forestfires.asp.

The increasing risk of wildland fire to the Canadian public is becoming unacceptable, in terms of threats to public safety and economic impacts. As well, unintended negative ecological impacts of traditional fire suppression are also creating pressure on forest health and wildfire risk. As a nation, we must learn to coexist with wildland fire and develop an increased ability to adapt to changing goals through public awareness and evolving policy. All levels of government can and should manage future risk collectively. This will be best done through the implementation, support and fostering of the Canadian Wildland Fire Strategy.