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City of Kamloops' Wildfire Protection Plan

Reducing urban wildfire risk through preventative action

Kamloops, a city of 93 000 people situated in the Thompson River Valley of south-central British Columbia, is particularly vulnerable to wildfires because of its dry climate. Wildfires are one of several risks that are projected to increase in future as a result of a changing climate.

Several factors produce an elevated risk from wildfires to lives and property in Kamloops' wildland-urban interface. These include social factors, such as growing development on the city's perimeter, as well as natural factors such as forest fuel build-up, the impacts of the pine beetle and an increase in the number of hot and dry summers.

During the devastating 2003 wildfire season, Kamloops served as the command and control centre for emergency workers and as a temporary refuge for thousands of evacuees from surrounding municipalities. Three large wildfires reached the city's perimeter that summer, threatening homes and businesses. Fortunately, Kamloops suffered only one minor structural loss when a community waterworks shed burned down. However, the city's close call that summer, as well as the harrowing experiences of other British Columbia municipalities such as Kelowna, spurred Kamloops to take preventative action.

In 1998, the City established a multi-stakeholder committee to coordinate its wildfire response. While it is recognized that it is not possible to eliminate all wildfires (approximately 150 to 170 small wildfires occur within city boundaries each year), actions can be taken to minimize potential home and infrastructure damage.

In 2007, the committee published its comprehensive Community Wildfire Protection Plan, whose overarching goal is "to identify and reduce the risk of life, property and environmental losses due directly or indirectly to wildfire within, or threatening city boundaries through effective pre-planning and preparation." The Plan outlined the City's actions to date and contains further recommendations.

2003 BRITISH COLUMBIA WILDFIRE SEASON

In the hot and dry summer of 2003, more than 2500 wildfires across British Columbia caused unprecedented damage to homes, businesses and public infrastructure. Three pilots lost their lives, 334 homes and businesses were destroyed, and 45 000 people were evacuated from their homes. The total cost of the fires is estimated at $700 million (Filmon 2003).

HAZARD ASSESSMENT

In 2004, the City contracted a private firm to conduct a city-wide wildfire hazard assessment to determine the amount and configuration of forest fuel and the ensuing threat to adjacent structures. The resulting map demarcated all public and private lands within the city into the following wildfire risk classes: extreme, high, moderate or low.

FOREST FUEL MANAGEMENT PLAN

A contractor was hired to develop a plan proposing specific actions to reduce the wildfire hazard on the 4036 hectares (ha) of city and crown land that had been assessed as extreme and high hazard. The plan's proposed hazard reduction measures were based on FireSmart hazard reduction guidelines.

FUEL MANAGEMENT OPERATIONS

Based on the management plan described previously, the City undertook extensive forest treatment work on 905 ha of city and crown land. The forest canopy bulk and density were reduced mechanically to decrease the amount of fuel available for combustion to FireSmart guideline levels.The spacing and pruning work was accelerated to be completed by the spring of 2010 because of the seriousness of the pine beetle epidemic, which has killed more than 90 percent of the ponderosa pine trees within city limits.

WILDLAND-URBAN INTERFACE COVENANT

Kamloops' existing Wildland-Urban Interface (WUI) covenant specifies that before a building or subdivision is approved for development, the landowner must agree to wildfire mitigation measures, including fire-resistant roofing materials, fuel buffer dimensions and spark arresters for wood stoves. A more stringent covenant is being developed in 2010. It states that a proposed development situated in the assessed moderate, high or extreme wildfire hazard classes cannot be built upon unless the landowner

- meets a minimum of FireSmart guidelines
- submits a site-specific wildfire hazard assessment to the City

Following negotiations with the City, two new subdivisions have already adhered to the new covenant's more stringent FireSmart guidelines.

PUBLIC AND LANDOWNER EDUCATION AND COMPLIANCE

The City created a wildfire Web site with up-to-date information for area residents. In addition, information and advice is distributed through television commercials, public campaigns, FireSmart seminars and information pamphlets.

The City of Kamloops is balancing public safety with the ecological integrity of surrounding green space. Wildfires are a regular ecological element in this "mountain rain-shadow" region covered by grasslands and forests; the natural burn cycle is between 7 and 30 years. However, most large wildfires have been suppressed in recent decades, and consequently, the land around Kamloops has accumulated dangerous levels of forest fuel material.

Although mechanically thinning thousands of hectares of city forests affects the region's soil, fauna and flora, it can be argued that such operations are bringing the forest closer to its "natural" state by reducing the level of forest fuel by mechanical rather than natural (wildfire) means. The Filmon report (2003), a review of the British Columbia government's response to the fires across the province in 2003, argued that controlled forest burns are a good way to replicate the natural ecological integrity of the landscape while also helping to substantially reduce the wildfire threat to the public. The City of Kamloops plans to pilot controlled surface burns in 2011.

BEST PRACTICE WILDFIRE PLANNING GUIDES

FireSmart: Protecting Your Community From Wildfire (2003), published by Partners in Protection, an Alberta-based non-profit organization, provides individuals and communities with planning tools for mitigating the risk of fire in interface areas.

The City of Langford, British Columbia, received provincial government funding to develop and implement model guidelines for reducing fire risk in the wildland-urban interface. The City published a detailed report in 2002 outlining its experiences, plans, wildland-urban interface covenant and other actions.

Managing wildfires is complex. Although the City of Kamloops has taken action to reduce the risks to human life and property from wildfires, several challenges remain. First, for the current plans and actions to continue to be effective, ongoing active forest management is required (involving either mechanical thinning or controlled burning). Otherwise, the forests will accumulate dangerous levels of forest fuel. Second, the public's perception of fire hazards and what a forest should look like in the Kamloops region has been identified as a major challenge for the City to overcome. Since the wildfires of 2003 and the pine beetle epidemic, public perception is beginning to change; but continued work is needed to fully engage the public and effectively reduce the wildfire risk.

In the aftermath of the 2003 wildfire season, Kamloops quickly mobilized various stakeholders to develop a comprehensive wildfire reduction plan and implement ambitious measures such as forest treatment work and a wildfire hazard covenant. The City's decisive response to the wildfires of 2003 demonstrates the importance of taking concerted action before devastation occurs.

Contact:
Kelly Johnston
Wildfire Protection Project Coordinator
City of Kamloops
Tel.: 250-828-3461
E-mail: kjohnston@kamloops.ca