

Urban planning on the forest fringe

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Fort McMurray residents evacuate the city on Highway 63 as the massive Horse River wildfire approaches. Credit: Wikimedia Commons, CC BY-SA 4.0

The ongoing Fort McMurray wildfire struggle joins an unsettling and suddenly growing list of calamities the likes of which Albertans, once upon a time, could only witness by flipping through a newspaper or watching the nightly news.

It started with the too-close-for-comfort wildfire in Kelowna, B.C., in

2003 that destroyed 250 homes and chased 33,000 residents from the area. Then in 2011, residents of Slave Lake could only stand back and watch as a sudden wildfire razed 400 structures in their town.

And though the wanton destruction and risk has been unmatched in Canadian history, the [wildfire risk](#) to municipalities is nothing new—and nobody knows that better than the municipalities of Kamloops and Logan Lake.

Cut out of the forest in British Columbia's semi-arid southern interior, these wildfire-tested neighbours were identified in a study of wildfire mitigation by local governments in B.C. and Alberta as exemplary case studies of municipalities that went above and beyond to reduce wildfire risk.

"Logan Lake in B.C. is an example of a municipality that is particularly vigilant," said Tara McGee, a professor in human geography, who helped conduct the study in 2012.

McGee says the town's mitigation measures include an inexpensive rooftop sprinkler program, free property fire risk assessments, high school curriculum that has students thin and remove vegetation around the community, and something they call Cow-munity Fire Safety, a program that sees local rangers bring cattle into the community to graze on grasses.

Comparing the results of the study in 2012 with another survey completed in 2007, she said most municipalities that have participated in these studies were involved in communicating about the wildfire risk and how to mitigate risk at the community and homeowner level, which typically revolved around the province's [FireSmart program](#). Thinning of vegetation and creation of firebreaks around the municipality were also popular.

Community covenants: Planning for higher risk

Land use planning measures have also risen to prominence in wildfire mitigation circles.

Sandeep Agrawal, [urban planning](#) professor and director of the U of A's Urban and Regional Planning Program, explains some land use measures at a planner's disposal include zoning to maintain proper distances between incompatible land uses, and formal agreements that put restrictions on the use of land, better known as covenants and easements.

He says in Kamloops—a city of similar population as that of Fort McMurray—the constant threat of wildfires has resulted in a land development restriction called the Wildland Urban Interface Covenant.

In the case of a new development, if there is a parcel of land that the City of Kamloops considers to be a hazardous zone, the city asks the developer to register a restrictive covenant that binds developers and homeowners to undertake certain actions to reduce fire risk, such as maintaining buffer zones around homes, controlling for the roofing materials and installation of certain types of fire-resistant shingles, basically adhering to more stringent FireSmart guidelines.

"We are talking about extreme weather or catastrophic events because of changing weather patterns," said Agrawal. "In terms of planning a city or community, if you want to minimize the impacts of an extreme weather event, more and more we have to think about risk-based urban planning."

He says mitigating the risk for each municipality comes with its own set of circumstances and challenges—and Fort McMurray is no exception.

He says what makes the Municipality of Wood Buffalo's urban planning

situation unique is that it is carved out of a vast swath of Crown lands, which are under the jurisdiction of the province. Whereas the rules that regulate expansion for municipalities surrounded by private lands are clear and allow planners to forecast decades in advance, municipalities fortified by Crown lands are at the mercy of disparate timelines and agendas.

"Developers begin building basically when the land is acquired by the city, making it hard to plan for anything," said Agrawal. "Where Edmonton knows which way it wants to grow and plans 20 to 30 years in advance, that's just not the case for Fort McMurray."

McGee says that wildfire mitigation is challenging for any municipality, but it may be more complicated in Fort McMurray because of its accelerated growth.

"It can be difficult for municipalities to 'sell' the importance of wildfire mitigation, because mitigation is about trying to reduce the potential impacts of a hazard event that may or may not happen," said McGee.

Provided by University of Alberta

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