



Understanding the 2023 Grouse Complex Wildfires

To understand the impact of the **2023 Grouse Complex wildfires** in the Okanagan region, the BC FireSmart Committee and the Institute for Catastrophic Loss Reduction (ICLR) enlisted FPInnovations to study the wildfires, which included the McDougall Creek, Clarke Creek, and Walroy Lake wildfires.

The study looked at:

-  How the wildfires spread into communities and how they spread once they had entered the communities.
-  What factors caused damage to structures and what helped protect them.

Who should take action to build community wildfire resilience?



Residents, private industry and government are recommended to take active FireSmart steps to build more wildfire resilient communities.

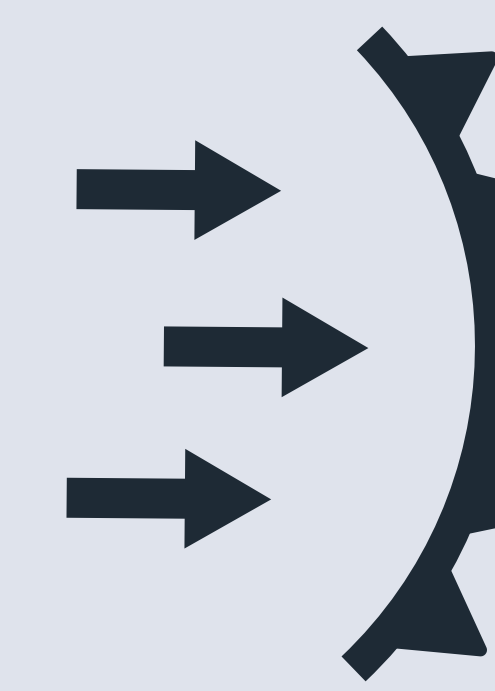
Weather and Challenging Conditions Fueled the Grouse Complex Wildfires



Long-term **drought, high temperatures, low humidity, and minimal rainfall** contributed to the ignition of wildfires.



Strong **winds, rugged terrain, and a stalled cold front** fueled the McDougall Creek wildfire into a fast-spreading, high-intensity crown fire.



A dry, stalled **cold front** east of Kelowna created a towering convection column, causing short- and long-range fire spotting.

The McDougall Creek wildfire spread via embers lofted ahead of the main fire front igniting spot fires for several hours in numerous locations.



The fire spread through burning embers, rapidly turning into multiple simultaneous urban fires.

Embers traveled over **2.5 km** ahead of the main fire, crossing Okanagan Lake and igniting the Walroy Lake wildfire in Kelowna and the Clarke Creek wildfire in Lake Country.

Proximity of Flammable Materials and Terrain Key Factors in Structure Vulnerability

10m

The presence and management of combustible materials within 10 meters of structures was crucial to their survival or damage in the fire.

Homes on steep slopes, with overhanging decks above **flammable vegetation**, were especially vulnerable due to fire's rapid uphill spread.



Yards with cedars, junipers, coniferous trees, or abundant ignitable materials were especially problematic.

