



Winter Wildfires?

Yes, it is true.

We normally don't think these two go hand in hand - don't wildfires generally occur during the spring and summer seasons of the year? Well, the two wildfires that broke out on Sunday, November 27, 2011 in southern Alberta definitely dispelled that myth. The Lethbridge fire started on the Blood Indian Reserve, jumped the Oldman River, and burned into the outskirts of the city of Lethbridge; covering a distance of 12 km in around an hour-and-a-half.

The McIntyre Ranch fire started just off Highway 62 on the Milk River Ridge and spread northeast for over 30 kilometres in the space of about four hours. Fortunately, no one was injured or killed as a result of these wildfires. Two residences on the reserve were completely destroyed and others were threatened, however.

We have undertaken a case study investigation of the Lethbridge and McIntyre Ranch fires. What we have found from our analysis of these two winter wildfires and of the associated wildland fire environment of southern Alberta is that:

- This is not the first incident of winter wildfires in the area.
- The lack of snow cover in early winter exposed fully-cured grassland fuels resulting in a landscape that was vulnerable to the occurrence of potentially disastrous fires. With the onset of Chinook wind conditions, all that is required is an ignition source, which in both incidents was the result of human carelessness.

- Under such explosive burning conditions, a grass fire is able to produce flames in excess of three metres high and readily spread to large sizes in a short period of time, thereby easily overwhelming the capability of local fire departments to contain. A major barrier to fire spread and (or) a significant drop in the strength of the winds is required to stop a fire's headlong assault.
- From an analysis of historical weather records and existing models for predicting grassland fire behaviour, the fuel and weather conditions that were responsible for what transpired in late November of last year in southern Alberta happen far more often than one would think. With this recurring potential, the only missing ingredient is some form of ignition, which thankfully is for the most part lacking.
- A monitoring and early warning system for grassland fire danger that meets the needs of the general public and emergency services coupled with education and training is required to avert potential future wildfire disasters.

The forested regions of the province are certainly not immune to winter wildfires either. The Entrance Ranch Fire that occurred just north of Hinton on December 14, 1997 as discussed in the FireSmart manual Protecting Your Community from Wildfire represents a good case in point.

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Soon after a grass fire starts and while it is still small aggressively fighting the fire can generally be safely and effectively attempted. Once a fire has grown beyond that, it can quickly become a threat to your personal safety.

Wildfires in dry grass are especially responsive to sudden changes in wind direction and strength and should therefore be given healthy dose of respect. Both firefighters and members of the public have been seriously burned and also killed from being overrun by a grass fire.

The Lethbridge and McIntyre Ranch fires travelled at an average speed of about 7.5 to eight kilometres per hour and their peak speeds could have easily been twice this fast.

This is not unusual considering the weather and winds at the time. In simpler terms, the wildfire burned at a speed of about 130 metres in a minute. In an emergency, an able-bodied person might be able to out run a grass fire and reach safety provided the distance is not too great.

While we have no control over the weather, make sure to monitor snow cover conditions and listen to weather forecasts for high winds when bare ground situations exist.

Reduce the grass fire danger around your home through grazing, mowing or creating firebreaks.

Finally, don't start wildfires. Take the time to check that your burning barrel is tied down and if you've burned debris piles in the open recently, check to see that they are fully extinguished.

Alexander, M.; Heathcott, M.; Schwanke, R. 2012. Winter wildfires?
FireSmart Farm and Ranch Magazine 2012 (Fall/Winter): 18.