

TRENDS ANALYSIS: WILDFIRE



What does this measure & why is it important?

This indicator measures the average area burned each year by wildfires, based on [records](#) of fires since 1919 from the Wildfire Management Branch of the BC Ministry of Forests, Lands and Natural Resource Operations. The area burned from year to year is highly variable, and is closely correlated with both temperature and precipitation (Utzig, Boulanger & Holt, 2011). Therefore, data have been analysed using a ten year moving average which measures the average area burned over the previous ten years. The indicator also determines how many fires over five hectares in size have come within two kilometres of the boundaries of the 28 municipalities in our region.

Wildfires can cause economic, social, cultural, and environmental losses by destroying buildings, forests, heritage sites, or even communities. They can cause respiratory problems, affect water quality in community watersheds, close transportation routes, and in the worst cases, cause loss of life. Due to the significant risks associated with wildfire, in recent years, Community Wildfire Protection Plans have been written for most communities in the region. These plans include an assessment of the forests immediately surrounding the communities. The risk of catastrophic fire in forests that have high fuel loads can be mitigated through fuel reduction treatments. Those high risk areas around our communities have been mapped, and options to treat those areas to reduce the hazards have been described. To date, few communities have been able to carry out the necessary treatments due to lack of funding and staff resources.

What are the trends & current conditions?

The ten year moving average shows that the area burned per year decreased significantly once provincial fire suppression efforts began in earnest following World War II (Figure 1). Figure 2 shows the fire history since 1950 in more detail. Visit the [Digital Basin](#) for detailed data tables and interactive maps. An analysis of historic fires shows that, since 1919, of the 28 communities found in our region, 24 have had a large wildfire (at least 5 hectares) come within 2 km of their municipal boundaries. Of the four municipalities that are not on this list, Invermere and Radium Hot Springs have both had large fires within 5 km of their boundaries, and Silverton and New Denver have areas identified as having a high probability and high consequence of wildfire in the immediately surrounding area (Blackwell, 2008).

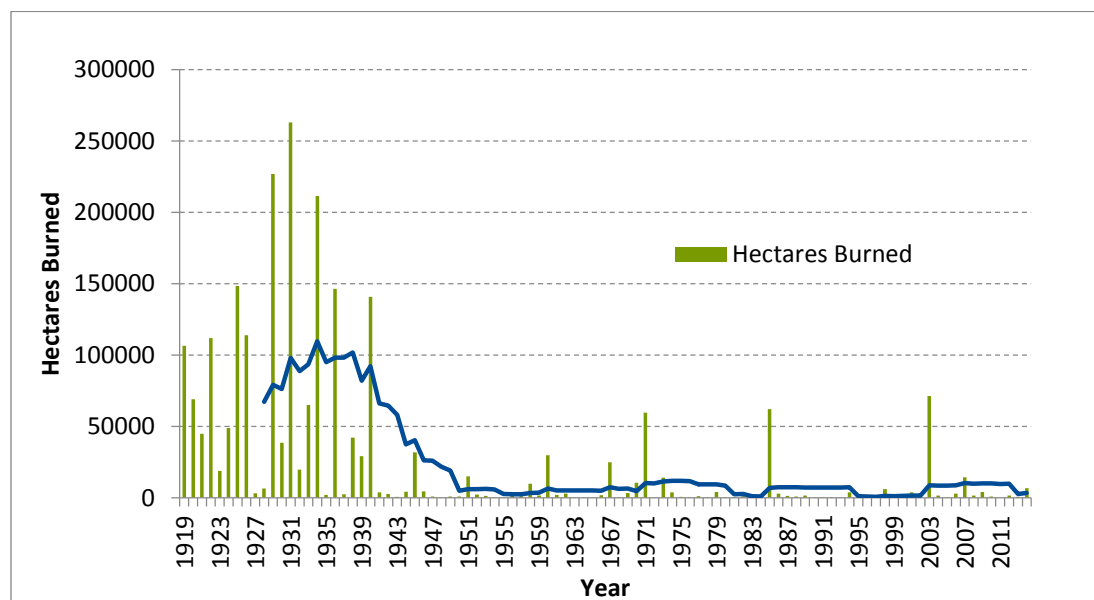


Figure 1: Area burned by wildfires in the Basin-Boundary region 1919 - 2014, with a 10 year moving average.
Source: Ministry of Forests, Lands and Natural Resource Operations, 2014.

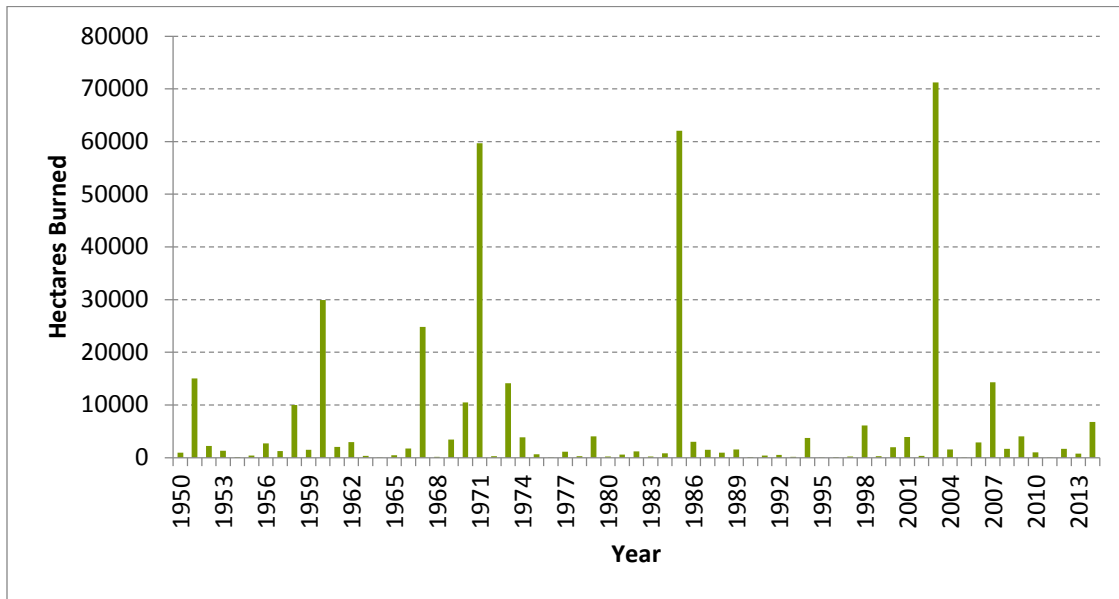


Figure 2: Area burned by wildfires in the Basin-Boundary region 1950-2014
Source: Ministry of Forests, Lands and Natural Resource Operations, 2014.

RDI's [2013 poll of residents](#) found that 47% of respondents agree that wildfire is a threat to their community, while 22% disagree and 30% neither agree nor disagree. The continued build-up of forest fire fuels combined with a projected increase in area burned in the near future due to climate change (Utzig, Boulanger & Holt, 2011) suggests that fires are a more immediate threat than is perceived by residents in our region. It is possible that the threat is underestimated because evidence of fire, and the reminder of its threat, fades with forest regeneration. However, the longer an area goes without burning, the greater the risk of damaging fire.



The Columbia Basin Rural Development Institute, at Selkirk College, is a regional research centre with a mandate to support informed decision-making by Columbia Basin-Boundary communities through the provision of information, applied research and related outreach and extension support. Visit www.cbrdi.ca for more information.

References

Blackwell, B.A. (2008). *New Denver / Silverton Protection Area. Community Wildfire Protection Plan Part 2*. Report prepared for the RDCK.

Ministry of Forests, Lands and Natural Resource Operations. (2014). Fire Perimeters – Historical [Spatial Dataset]. Retrieved from <https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=57060&recordSet=ISO19115>.

Utzig, G., Boulanger, J., & Holt, R.F. (2011). Climate change and area burned: Projections for the West Kootenays. Report #4 from the West Kootenay climate vulnerability and resilience project. Retrieved from <http://www.kootenayresilience.org>.