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The urban side of the Wildland-urban interface – a new fire audience identified following an extreme wildfire event in Aotearoa/New Zealand

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Abstract

Wildland-urban interface wildfires are increasingly impacting communities worldwide. In New Zealand this has been demonstrated by the destruction or damage of over 25 homes during the 2016-2017 fire season, the greatest number lost in 100 years. The wildfire which most impacted these statistics is the Port Hills fire, which resulted in the loss of nine houses and the evacuation of over 1400 residents on the margin of the city of Christchurch in February 2017. This wildfire opens the door to a new focus of attention required to address wildfire mitigation needs of suburban properties in the urban fringe in wildfire prone areas.

Although mitigation measures for large and small rural properties are well understood by fire officials and conveyed to property owners, uptake has been minimal in the dense suburban communities which extend into the WUI. Suburban property owners in the urban fringe will require greater focus by fire managers to ensure residents are aware of the risk of wildfires, and adequately prepared to face the risk of potentially devastating wildfires in the future. However, these communities are not merely denser versions of their rural neighbours and lessons from other parts of the WUI may not apply. Engaging with them will necessitate understanding their differences and developing new messages appropriate to their context.

Keywords: urban fringe, risk awareness, mitigation, preparedness

1. Background

Frequent small, and occasional large, wildfires occur in New Zealand (about 4100 wildfires were recorded burning approximately 4170 ha per year from 2005–06 to 2014–15; National Rural Fire Authority data 2015). The majority of these wildfires are caused by human activity (Anderson *et al.* 2008). However, the impact of wildfire events on communities in the wildland-urban interface (WUI, or rural-urban interface (RUI) as it is more commonly referred to in New Zealand) has grown in recent years with over 25 homes destroyed throughout country during the 2016-2017 fire season, the greatest number lost in 100 years (AFAC 2017).

The WUI generally is defined as areas where houses mix or intermingle with potentially flammable vegetation, such as where buildings are in close proximity to large contiguous patches of flammable vegetation (interface) and where buildings are interspersed within flammable vegetation (intermix) (Radeloff *et al.* 2005). However, properties impacted by WUI wildfires are not just those surrounded by rural land, but include those that lie within suburbs, with either one boundary bordered by rural land or completely within the city limits, on the margins of urban areas or what is often referred to as the urban fringe.

There is an increasing worldwide trend of wildfires impinging on the margins of suburban areas of cities with an associated increasing risk to lives and property (for example, Hobart, Australia, 1967; Canberra, Australia, 2003; and Fort McMurray, Canada, 2016). Similarly wildfire events on the margins of urban areas are not new to New Zealand (Fogarty, 1997; Graham and Langer 2009; Hart and Langer 2014), but up until 2017 they were relatively infrequent and few properties were destroyed