

Towards a regionalised list of plant flammability for NZ: preliminary findings and implications for restoration

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Destructive wildfires are increasingly common in many parts of the world, and are predicted to worsen with climate change. Approximately 3000 wildfires burn around 6,000 ha of land in New Zealand each year, and fire danger will likely increase in parts of the country due to climate change. Furthermore, certain New Zealand ecosystems have become more flammable due to invasions by exotic plant species. One approach to reducing wildfire spread is to plant 'green firebreaks'; strips of vegetation comprising plant species with low flammability. Green firebreaks are based on the idea that a fire, or embers spotting ahead of a fire front, will be extinguished by this less flammable vegetation. Green firebreaks also serve other purposes; if comprised of native species they can improve biodiversity, provide ecosystem services, and are often more aesthetically pleasing than firebreaks of bare earth or lawn grass. However, to plant green firebreaks, we must first determine the relative flammability of different plant species. To do this we have measured the shoot flammability of over 150 species of plants found across New Zealand. These include indigenous and introduced species, and a variety of growth forms, such as trees, shrubs, vines, grasses and herbs. In this presentation we will provide our preliminary findings and identify species which are highly flammable, and hence may increase fire hazard in a given ecosystem, and also species with low flammability that would be suitable for use in green firebreaks. We discuss the past use of green firebreaks in restoration projects and make suggestions for their deployment in the future.