

Bushfire risk at the rural–urban interface

RESEARCH TEAM

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Project duration: 3 years

Background

Communities that are located on the interface between bushland and urban areas are vulnerable to bushfire disaster. Achieving sustainable co-existence with flammable landscape requires a multi-pronged strategy including coordinated bushland fuel management, development of fire safe gardens and the building of fire-wise communities. Research from the geographic, biological, and social sciences ('pyrogeography') that is co-designed with stakeholders is required to develop effective bushfire adaptation pathways. This research must be able to map fire risk at the landscape to property-scale risk, identify effective fuel management intervention to reduce fire hazards in bushland and gardens, and educate and empower individuals and communities about effective means to manage the threat of bushfire disasters.

SUPPORTING ORGANISATIONS

Country Fire Authority (Vic)
Department of Energy, Environment and Climate Action (Vic)
NSW Rural Fire Service
Tasmania Fire Service
Queensland Fire and Emergency Service

Project description

Using the Great Hobart area as a model system of the rural-urban interface, we will undertake integrative studies to drive behaviour change in bushfire prone communities. Using geographic information systems and data from recent bushfire disaster, we will build maps of fire risk at the landscape and property scale. A feature of this mapping is an estimation of the risk of embers destroying property. Using field surveys and laboratory studies, we will assess bushfire risk in gardens and evaluate the likely effectiveness of fuel reduction intervention in bushland. We will undertake social science surveys at the community and individual property scales to understand perception of bushfire risk, the knowledge-base and motivation to mitigate risk; undertake experiments to understand the acceptability of different fuel management interventions; and explore the barriers to some community groups, including an Indigenous organisation, undertaking fuel management using fire (prescribed burning, cultural burning and 'gardening with fire').

Intended outcomes

The project is aimed to drive transformational change in the management of the bushland communities influencing fuel reduction programs, community capacity building, educational and instructional materials for practitioners and communities, and influencing policy in local, state and federal government, and provide exemplars of community groups leading fire adaptation programs. The finding of the research will be disseminated in a range of online educational and instructional materials, that will be evaluated using objective methods. The findings of the project will be published in leading journals in fire management, fire ecology and pyrogeography. Examples of the sort of outcomes from this project include decision support tools for landowners to create fire-safe gardens, identification of pathways for community groups to undertaking fuel management using fire and create bushfire prepared neighbourhoods, providing local and state government with tools to assess bushfire risk at local to landscape scales.

Translation and implementation potential

This project has very high translation and implementation potential because it is based around existing close collaborations amongst researchers and key stakeholders in bushfire management in the Great Hobart area. The co-designed project design involving frequent effective communication, collaboration, coordination among stakeholders and researchers with realistic milestones provides both flexibility, adaptability, and project oversight. The project is well resourced given the integration with other related research program in the University of Tasmania Fire Centre, including linkages to national applied research program designed to adapt to climate change, natural hazards, and human well-being. Further, the project is organised around an integration and communication work package to ensure the timely delivery research findings and creation of communication materials to convert project ideas and goals into actionable plans and strategies that are understandable and feasible for all stakeholders.

Further information

For full project details head to: www.naturalhazards.com.au/research/research-projects/bushfire-risk-rural-urban-interface

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