

# PRODUCTIVITY AND EFFECTIVENESS OF SUPPRESSION RESOURCE AND TACTICS ON LARGE BUSHFIRES



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## THIS PROJECT STRIVES TO DETERMINE WHAT EFFECT SUPPRESSION OPERATIONS HAVE ON LARGE FIRES.

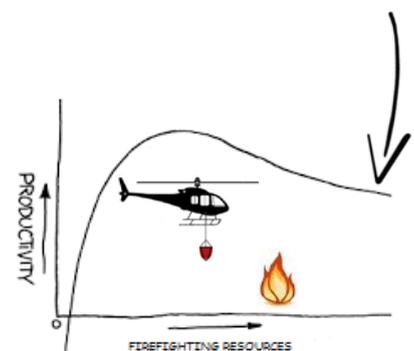
There has been little formal quantification of the effectiveness of suppression on large bushfires. Existing research on suppression effectiveness has largely focused on small bushfires or initial attack and the results do not generalize well to the suppression of large bushfires. Suppression on large bushfires is complex and costly. There is an expectation that fire managers practice evidence-based management, yet the tools needed to achieve this for large bushfires are scarce. Existing tools rely on simplifications of suppression that only represent limited strategies and tactics. This project will endeavour to provide a deeper understanding of suppression on large bushfires by determining what strategies and tactics are being used on large bushfires, analysing a subset of these strategies in greater detail, determining the productivity of resources working on large bushfires, and evaluating the effect of suppression by quantifying what suppression efforts prevented from burning.



Hypothesis: Effective burning operations are critical to bushfire containment and are used to secure the bulk of the perimeter of large bushfires.



Hypothesis: Without suppression efforts bushfires would burn significantly larger areas, which can be simulated with PHOENIX RapidFire.



Hypothesis: The productivity of firefighting resources working on large bushfires can be evaluated by using the Cobb-Douglas production function.



Hypothesis: The probability of successfully establishing a control line on large bushfires is a function of weather conditions and attack methods.

