

Biological Control of Weeds and Fire Management in Protected Natural Areas: Are They Compatible Strategies?

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Biological control of weeds has been traditionally associated with pastoral or cultivated land-use systems. Recently, there has been increasing discussion of the possibility of biological control of weeds invading national parks and native forests. However, a completely different set of management strategies applies in such land-use systems, the aims of which may conflict with those of classical biological control. In Australia, one such practice is the use of regular prescription burning to control the incidence and severity of wildfires. This paper reports data collected between 1981-7 on an infestation of St John's wort, *Hypericum perforatum*, and its biological control agent, *Chrysolina quadrigemina*, in eucalypt forest that was burnt twice during the study period. The fires both promoted development of the weed population and retarded that of the control agent. However, a subsequent indirect effect of fire was to favour population build-up of *C. quadrigemina* and a recently released agent, *Aphis chloris*, through increased plant nutrient levels. This indicates that the compatibility of biological control with existing management strategies must be considered when it is proposed as an option for the control of invasive weeds in protected natural areas.
