

## **Impact of the heather beetle (*Lochmaea suturalis*), a biocontrol agent for heather (*Calluna vulgaris*), in New Zealand**

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The heather beetle (*Lochmaea suturalis*) was released into Tongariro National Park, North Island, New Zealand, as a biocontrol agent for heather (*Calluna vulgaris*) in 1996. Populations have slowly established and started to damage or kill heather. Heather was planted in Tongariro National Park in 1912 to re-create UK grouse moors, but the grouse failed to establish and heather quickly became an invasive weed. It has now infested more than 50 000 ha of the North Island's Central Plateau including Tongariro National Park and the adjacent Waiouru Military Training Area. Between 2007 and February 2011 beetle populations have grown exponentially at three release sites and severely damaged or killed approximately 100 ha of heather. Prior to successful biocontrol, the herbicide Pasture Kleen® (2,4-D ester) was applied aerially to manage heather within the Waiouru Military Training Area. Impact assessment plots were set up in 2008 to compare and contrast herbicide application with biocontrol for the control of heather and the associated responses of native and exotic plant species. After two years heather cover has reduced by 90% after herbicide application, by 99% after heather beetle attack, and by 99.9% following a combination of methods. Herbicide application resulted in significant non-target damage to native shrubs and herbaceous plants, and the exotic grass *Agrostis capillaris* is invading plots following a combination of control methods. It is too early to determine the relative impact of each method on grass invasion. No non-target impacts were found as a result of beetle feeding and there is early evidence that native shrub recovery is occurring following biocontrol.

