

The challenges in demonstrating cause and effect in weed biocontrol: St. John's wort as a case study

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To biocontrol practitioners and land managers, who have reaped the benefits already, biocontrol is a no-brainer. But many others will remain sceptical about biocontrol, until more proof can be provided that biocontrol really can slow or reverse plant invasions. We identified the successful biocontrol programme against St. John's wort (*Hypericum perforatum*) in NZ as a suitable system to demonstrate a direct cause and effect relationship between the activity of biocontrol agents and population growth (or decline) of the host weed. We found a remnant population of the weed, hosting well established populations of the biocontrol agents (lesser and greater St. John's wort beetles, *Chrysolina hyperici* and *C. quadrigemina*) and, over the past two years, treated parts of the population with insecticide to exclude the biocontrol agents. The experiment is on-going (into its third season now), and preliminary results will be presented.

