

Are there economic benefits from managing invasive species?

Nicholas Hanley; Michaela Roberts

An invasive species is typically thought of as a non-native species which causes some kind of adverse effect. However, “Invasive species” is a tricky phrase: what’s cute and protected in one place may be unwanted and persecuted in another. The brush-tailed possum is much loved in Australia for many people. But when introduced to New Zealand by fur farmers in the 19th century (and then escaping and multiplying in the wild), it turned out to have disastrous effects on native trees, rare birds like kiwis, and is argued to be an effective way of spreading bovine tb around dairy farms. So now government agencies and local authorities spend a lot of money (about NZ110 million per year right now^[1]) trying to control possums in New Zealand, whilst just over the Tasman Sea in Australia, local councils are trying to create new habitat for them!

In our paper, we analyse why it might be seen as socially desirable to spend private and public money in controlling invasive species such as possums. We show that invasive species impose considerable damages on native biodiversity, on recreation as well as on farming and forestry. Such damages can be valued using a toolbox of methods developed by environmental economists. For example, in the UK, the Ash die-back fungus has led to the deaths of thousands of ash trees, causing losses in landscape quality and recreation opportunities, as well as having negative effects on timber production. Economic tools allow us to quantify these negative effects, and compare them to the costs of actions taken to reduce the speed and rate of spread. Some invasive species may indeed provide us with benefits rather than just costs: UK forest owners enjoy higher timber yields by growing varieties of tree not native to the British Isles, whilst hunters like to shoot pheasants originally brought from China in the 19th century. Moreover, people are likely to care about how invasive species are controlled (eg by

trapping, shooting or poisoning).

Economists, working with ecologists, can tell us something about how much money it makes sense to control invasive species, even when the negative effects are mainly felt by local wildlife. Economics can also help us compare the negative and positive effects of a species in a system. This paper explains how that can be done, and what we have learned to date from examples all across the planet.



*Creating habitat for wildlife such as the Brushtail possum (Brisbane City Council).
Photo credit: [Flickr](#).*

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¹ <https://predatorfreenz.org/resources/introduced-predator-facts/possum-facts/>