

Market transactions and economics in general affect biological invasions

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Impatiens glandulifera, Himalayan balsam, is an invader from India which smothers river banks and other habitats in many parts of Europe. Credit: Williamson M, Meyerson LA, Auge H

Biological invasions, i.e. the spread of introduced, non-native species, not only serve as ecological model systems, but also bring out the importance of economic activities on ecological processes. Two recent books have shown the extent and variety of the interaction of economics

with invasion science and also the variety of approaches to tackling these problems.

Three researchers, lead by Mark Williamson from the University of York, England, argue in the latest issue of the open access journal *NeoBiota* that the ecological and economic dimensions of the problem of [invasive species](#) are connected at different levels. Many of the changes that lead ecosystems to be more vulnerable to the impact of invasive species are direct consequences of economic behaviour. This is because these impacts are externalities of the market transactions; they are not taken seriously by those making the transactions perhaps because they are not held legally responsible for the impacts nor are the markets directly affected by these impacts. Instead these impacts are often borne by those who receive little or no benefit from the market transactions.



Rhododendron ponticum, rhododendron, is a serious economic invader in Britain, now starting to spread in other parts of Europe. Here all the purple flowers are rhododendron, covering a hillside in the Snowdonia National Park, Wales. Derived by selection and hybridization from a native plant of southern Spain. Credit: Williamson M, Meyerson LA, Auge H

Furthermore, Williamson, Meyerson & Auge point out that [biological invasions](#) are good models for studying more general processes in

ecology. In particular, the behaviour of ecosystems that are not in or close to equilibrium can be studied easily in biological invasions. On the one hand, biological invasions help us to understand mechanisms of spread, which is important for native weedy species and colonization of new habitats, much better. On the other hand, they serve as a study system on how ecosystem functions. This knowledge is crucial to predict impacts of Global Change on ecosystem services beneficial to society.

More information: Williamson M, Meyerson LA, Auge H (2011) Invasion science, ecology and economics: seeking roads not taken. *NeoBiota* 10: 1-5. [doi: 10.3897/neobiota.10.2194](https://doi.org/10.3897/neobiota.10.2194)

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