Does risk inform investment in ecological restoration?

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Ecological restoration has widely variable outcomes from successes to partial or complete failures and there are diverse perspectives on the factors that influence the likelihood of success. To improve outcomes, several frameworks have been developed to consider risk and uncertainty in the planning and prioritisation of restoration projects. We sought to answer what influences people on how they invest (spend money) in restoration, specifically whether risk informs investment in planning, implementation and monitoring of restoration projects.

We surveyed 364 ecologists, practitioners, volunteers and researchers involved in the restoration of native vegetation to identify their perceptions on the factors influencing the success of restoration projects. We also elicited information on the approaches employed to plan, implement and monitor restoration projects and associated costs.

The most effective factors perceived to improve restoration success (success factors) were control/management of biotic conditions that prevent ecosystem recovery, promoting natural regeneration and selecting species characteristic of the original ecosystem assemblage. The main factors perceived to limit restoration success (constraints) were financial reasons, weed invasion and time, whereas the main constraints of actual restoration projects were financial reasons, climate and weed invasion. We found that there is a mismatch between risk factors and planning considerations. For example, despite climate (particularly lack of rainfall and drought) recognised as a major constraint to the success of restoration projects, climate is not a perceived constraint nor is climate change adaptation considered to be an effective success factor. This mismatch highlights the need for better consideration of risks in restoration planning. We also found that monitoring effort requires improvement to more accurately detect and respond to problems, e.g. climatic events and weed invasion, however this will require overcoming financial constraints.

We will also assess how people invest in implementation of restoration projects to identify whether investment deals with risk factors.