Pathway risk analysis for weed spread within Australia

There has been considerable effort to elucidate the means by which weeds and potential weeds enter Australia (e.g. Groves 1997) and to assess the risks associated with the importation of plants (Groves et al. 2001). However, no comprehensive studies have been undertaken to ascertain the ways that weeds spread once present within Australia, or to assess the relative threats or risks (likelihood and potential magnitude) of different weed ‘sources’ and ‘pathways’ due to species, quantity of propagules, distance, and sensitivity of the invaded environment.

**Project Goals**

1. assess the relative risks of the different sources and pathways of weed ingress within Australia, and
2. identify ways to reduce these risks.

The first stage of the project involved a review of Australian and International literature on weed spread. The review identified twenty four weed sources (sites or areas of land where weeds are actively growing and from which new invasions may emerge) and 17 weed pathways (the means by which weed propagules are moved). The 17 pathways were grouped according to: deliberate spread by humans, accidental spread by humans, and natural spread. The effectiveness of management approaches to halt weed movement were evaluated. Many individuals and organisations, including research and extension agencies, have first-hand experience in the form (levels) and function (principles) of weed spread. The second stage of this project involved collating the experience of these individuals and organisations with respect to each of the weed sources and pathways identified in the review of literature, to build a major repository of information regarding the relative risks of weed sources and spread pathways in Australia.

Australian scientific weed experts were identified and surveyed by questionnaire to provide their experience of relative risks of weed ingress, the effects of changing trade patterns and environmental conditions, and effective management techniques.

The project was conducted by Professor Brian Sindel, School of Environmental and Rural Science, University of New England, with the assistance of the Institute for Rural Futures.

**Project Details**

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