



FACT FILE

A landowner's guide to managing

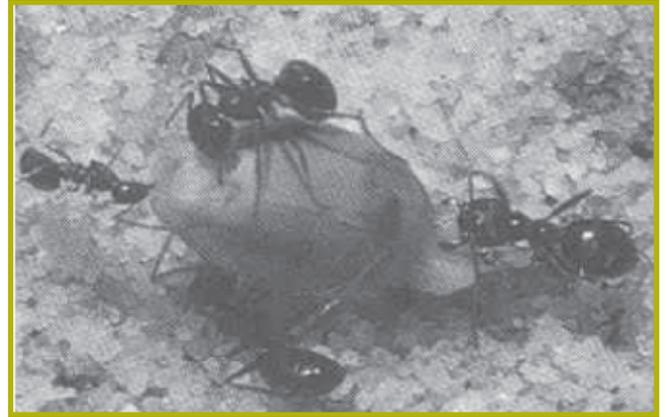
AN ECOLOGICAL APPROACH TO RESTORATION OR REVEGETATION IN RURAL LANDSCAPES

THE ROLE OF REVEGETATION IN NATURE CONSERVATION

An important question for land managers is, 'what priority should be given to re-vegetation activities compared with other measures that enhance nature conservation?' There is widespread agreement that the highest priority for vegetation management in rural environments is to identify, protect and manage *existing remnants* of natural vegetation. Although the remnants may have experienced varying degrees of disturbance, protection and restoration of remnant vegetation generally offers greater potential for nature conservation than attempting to develop new habitats by re-vegetation. There are, for example, many natural elements likely to be present in remnant vegetation that are not easily established in newly re-vegetated plots, including soil fungi, ground dwelling invertebrates, native grasses, herbs and shrubs. Even when degraded, remnants represent at least a skeleton of the natural environment that can be restored.

In many situations, however, protection and restoration of remnant natural vegetation will not be enough on its own. There are a number of reasons why 'putting back' additional vegetation into the landscape also has an important role.

- Regional processes that effect the sustainability of the landscape, such as rising or dropping water tables, are affected by the presence or lack of vegetation. Removing alien vegetation for example could remedy a low water table whereas re-vegetation could remedy a high water table and prevent flooding. This in turn also affects the viability of the threatened remnants.



- Existing remnants may be too small to maintain wildlife populations of sufficient size to be self-sustaining in the long term. Re-vegetation can be used to enlarge individual remnants and increase the total amount of habitat in the landscape.
- Due to pressures such as overgrazing for example, not all types of vegetation are adequately represented in the system of remnant vegetation, and many local areas have little remnant vegetation present. Re-vegetation offers the potential to replace these missing elements by careful restoration of particular types of vegetation, or restoration in strategic areas.
- The sheer scale of the environmental problems in some rural areas demands urgent and extensive restoration and re-vegetation efforts.



How can re-vegetation be used to benefit wildlife

Re-vegetation activities also have an important social function. They offer an opportunity for many people to be involved in nature conservation in a practical way, to see positive outcomes for their efforts and to learn more about the natural environment.

The role given to re-vegetation in a particular area will vary depending on local circumstances. In landscapes where *substantial areas* of remnant natural vegetation remain, re-vegetation activities are likely to be most beneficial where they are directed towards restoring and expanding this existing vegetation, and linking remnants. Regeneration of plant communities, rather than direct planting, may be particularly important. In contrast, in landscapes where *little* natural vegetation remains there must be greater emphasis on large-scale establishment of new tracts of vegetation to stabilize the environment and to expand the total area of habitat for nature conservation.

There are a number of ways in which re-vegetation activities can provide conservation benefits for wildlife within the context of a 'whole landscape' approach. *Direct* measures are those that benefit wildlife by providing habitats in which species may live, or from which they obtain resources such as food and shelter. *Indirect* measures are those that do not necessarily provide an immediate benefit, but by preventing the decline and degradation of the natural environment they indirectly benefit species that use these habitats. The direct measures are briefly outlined below.

Direct measures

Re-vegetation can be used in three ways to directly benefit wildlife species These are:

- Increasing the amount of suitable habitat in the landscape, either by adding to existing vegetation or by establishing new blocks of vegetation;
- improving the quality of existing habitats by selective replanting or seeding with appropriate species to enhance the composition or structure of the vegetation (such as adding understorey shrubs where only a tree layer is present); and
- promoting the connectivity of existing habitats by selective filling in 'gaps' to complete an existing link (e.g. in roadside or streamside vegetation), or by establishing a new habitat corridor or 'stepping stones' of habitat between otherwise isolated areas.

We cannot afford to wait until full information is available. Restoration and re-vegetation for nature conservation must proceed based on the best available knowledge and experience, but with a commitment to continued revision techniques and procedures in the light of new information. This is the concept of adaptive management an approach based on 'learning by doing' with the results from practical experience used to guide the next phase of planning and implementation.

A critical component of adaptive management is monitoring the outcomes of current practice. Effective monitoring and research programs on the conservation benefits of re-vegetation are not being adequately undertaken at present and there is limited feedback to guide and improve future activities. Quantitative monitoring and research must be included as an integral part of management activities.

