

Managing native pastures in Victoria

Steve Clark, Department of Primary Industries
Research & Development Division, Hamilton

Background

It is estimated that, prior to white settlement, more than a third of Victoria was covered by grasslands and grassy woodlands. Within a few years the introduction of sheep had reduced this dramatically and now we have less than one percent left - mostly in tiny fragments. The two largest grassland areas were the Volcanic Plains between Melbourne and Hamilton and the Riverine Plains in northern Victoria.

Although most of the original grassland has gone, considerable areas of semi-degraded native pastures remain. These have varying levels of introduced grasses and forbs but still contain a high diversity of native species. A research project funded by the Department of Primary Industries (DPI) and the Department of Sustainability and Environment (DSE) is looking at ways to manage these areas to benefit of the native species.

Why should we care about our grasslands?

Both the Volcanic Plains and the Riverine Plains are unique environments found nowhere else on the planet - just as valuable as the wet tropics, the Ningaloo reef and the alpine meadows. They once supported a great diversity of animals, some now extinct or nearly so - Striped Legless Lizard, Plains Wanderer, Bustard, Bush Stone-Curlew, Eastern Barred Bandicoot and so on.

We know so little about the grasslands. They changed so quickly with white settlement that there was no time to study them.

Economic value

Native grasslands have potential agricultural value. Although introduced pastures species carry more stock, the native species are better adapted to the variable climate, cope with low fertility soils, may be responsive to summer rainfall and are well suited to marginal environments. However the nutritive value of native grasses is often lower than for introduced grasses and legumes so animals grazing native pastures may require additional supplementary feeding.

Native grass seed is in great demand for amenity planting (along freeways for example) but seed is scarce and expensive. There are great opportunities for farmers with native pastures to harvest seed and supply this market when technological and biological barriers are overcome.

Many of the plains flora would make highly desirable additions to the horticultural industry. Will we soon see punnets of *Wahlenbergia*, *Brunonia* and *Leptorhynchos* seedlings alongside the pansies and snapdragons at our local nursery?

The EcoRich Grazing project

The project has field work underway on the Volcanic and Riverine Plains. The team consists of agronomists, ecologists, botanists and economists from both DPI and DSE. We also have the invaluable support of a group of grassland farmer advocates who supply enthusiasm, local knowledge and land for experimental and extension work.

On the Volcanic Plains the emphasis is on grazing strategies to increase the proportion of native species in the swards. We have established three sites - Hamilton, Darlington and Colac - each consisting of six grazing systems. These are: always grazed, never grazed and a series of strategic grazing regimes where livestock are removed at particular times to encourage flowering and seeding of various forbs and grasses.

On the Riverine plains we have experiments to examine strategies to re-establish native grassland communities in previously cultivated, degraded pastures. The long-term strategy is to re-create diverse, resilient pastures that are able to sustain livestock and biodiversity. Our initial research is investigating methods to establish *Maireana* (bluebush) species under cereal crops. The theory is that the *Maireana* plants are a foundation of the

northern grasslands and their presence greatly enhances regeneration of the grassland flora after cropping. Three sites have been established between Echuca and Mitiamo.

With the help of grassland advocate farmers and groups such as Greening Australia and Land for Wildlife we plan to extend the findings of this project to farmers via field days and various publications.