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SPECIAL THEME: PLANT CONSERVATION AND LINEAR VEGETATION REMNANTS

Working collaboratively to restore connectivity in the South West Slopes bioregion of New South Wales

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Introduction

The South West Slopes is the most extensively cleared bioregion in New South Wales (NSW) (Benson 1999), with few formal conservation reserves (Pressey *et al.* 2000). It is estimated that 22% of the Murray catchment's woody native vegetation remains (Miles and Trust 2001).

In 2007, the Roads and Traffic Authority of NSW (RTA) received approval from the NSW Department of Planning to upgrade five sections of the Hume Highway, from the Sturt Highway junction, south to Albury. As part of upgrade project approvals, the RTA committed to developing a biodiversity offset strategy.

A reference group was established in July 2007 to provide advice on the development and implementation of the Offset Strategy and Package. It comprised members of NSW Department of Environment, Climate Change and Water, the federal Department of Environment, Water, Heritage and the Arts, the Murray and Murrumbidgee catchment management authorities, and the Hume Livestock Health and Pest Authority.

One of the main objectives of the reference group was to deliver an Offset Strategy for the project that would offset the residual impacts on biodiversity, particularly on Box-Gum Woodland and habitat for threatened species, so as to maintain or improve biodiversity values in the area in the long term.

The group's members began working collaboratively with a common goal of restoring connectivity in the South West Slopes bioregion. Collaborative activities included:

- delivery of the RTA Offset Strategy;
- revegetation by the Murray Catchment Management Authority; and
- assessment and signage of significant roadside vegetation by Albury City Council.

Delivery of the RTA Offset Strategy

The Offset Strategy was comprised of a hierarchy of offset measures including securing remnant native vegetation protection through conservation covenants, and strategic revegetation for threatened species and communities.

Securing remnant native vegetation

In order to deliver this offset measure, the RTA engaged the services of the Nature Conservation Trust of New South Wales (the Trust). The Trust is a non-government body set up under the *Nature Conservation Trust Act 2001* (NSW) to promote the conservation of natural and associated cultural heritage on private land in the state.

The Trust identified an area for delivering the remnant native vegetation offset component. The 100 ha property *Slate Hill*, near Woomargama, was selected and purchased by the Trust as the first offset site for the project (Figure 1). It contains Box-Gum Woodland and suitable habitat for the Squirrel Glider and threatened woodland birds including the Brown Treecreeper. Additionally, *Slate Hill* is adjacent to the 12 ha Blue Metal Travelling Stock Reserve that contributes to the long-term survival and recovery of local populations of Grey-crowned Babblers, Brown Treecreepers, Diamond Firetails and Squirrel Gliders.

The Trust is undertaking a program of works on the property aimed at increasing the quantity and quality of Box-Gum woodland and its value as habitat for the threatened birds and mammals. By completion of the Offset Package the RTA and the Trust will have protected and improved more than 630 ha of private land in the region containing Box-Gum Woodland.



Figure 1. Slate Hill offset property, near Woomargama, NSW. Photo: Josie Stokes.

Other offset measures

The RTA committed to various other biodiversity offset measures as part of the project to contribute to the long-term improvement of the new road corridor and to promote species movement and genetic variation. These included strategic revegetation, wildlife crossing treatments, installation of nest-boxes and implementation of a threatened species monitoring program.

To date, about 116.6 ha within the project area has been revegetated with plantings indicative of the Box-Gum Woodland vegetation community as part of the landscape and revegetation works.

Revegetation by the Murray Catchment Management Authority

As a result of over-clearing of private land for agricultural and pastoral practices, linear reserves in the South West Slopes bioregion (including roadside and travelling stock reserves) are an important resource for biodiversity. They also provide important corridors and stepping stones between large areas of natural vegetation (e.g. national parks and state forests), facilitating the movement of animals and plants across the landscape. A recent study has shown that travelling stock reserves (TSRs) tend to support more species of declining birds and a greater abundance of arboreal mammals than woodland remnants on private land (Lindenmayer *et al.* 2010).

The Murray Catchment Management Authority (CMA) is committed to the conservation of the Murray Catchment's valuable linear reserves, including road reserves and travelling stock reserves. The RTA provided funding to the CMA for its Seed Production Area, and the CMA has been active in helping to improve the *Slate Hill* offset property by its vegetation services team undertaking revegetation there through direct seeding of trees and understorey shrubs (Figure 2).

Additionally, neighbouring landholders to *Slate Hill* and Blue Metal TSR have received funding from the Murray CMA for the enhancement and protection of biodiversity on their properties to further extend and improve the remnant vegetation in the landscape. This will lead to an increase in structural connectivity within the region, not only providing additional habitat, but also facilitating dispersal movements and gene flow within discrete patches of habitat.

The Murray CMA believes that the partnership with landholders and agencies on this project is a great example of how working collaboratively can achieve a broad range of objectives, and provide a positive outcome for biodiversity within the region.

Assessment and signage of significant roadside vegetation by Albury City Council

Albury City Council recently produced the guiding document *Native Vegetation Plan for Roadsides, Waterways and Council Controlled land in the City of Albury*. It identified and assessed areas of land and rated them of high, medium or low conservation value using a rapid assessment process. As a result, maps highlighting vegetation conservation values and a prioritised works program were developed.

Out of 212 km of non-urban roadsides surveyed, 8% of areas were considered to be of high conservation value and 10% of medium conservation value. All areas with either of these two ratings were signposted with the NSW Roadside Environment Committee/Albury City 'Significant Roadside Environment' signage. The purpose was to raise awareness in the community and prevent damage to significant areas from residents, work crews, and council staff or contractors.

Another objective of the project was to maintain the areas of high conservation value and improve those of medium conservation value to a high rating through weed management, revegetation, direct seeding and the minimisation and prevention of disturbance.

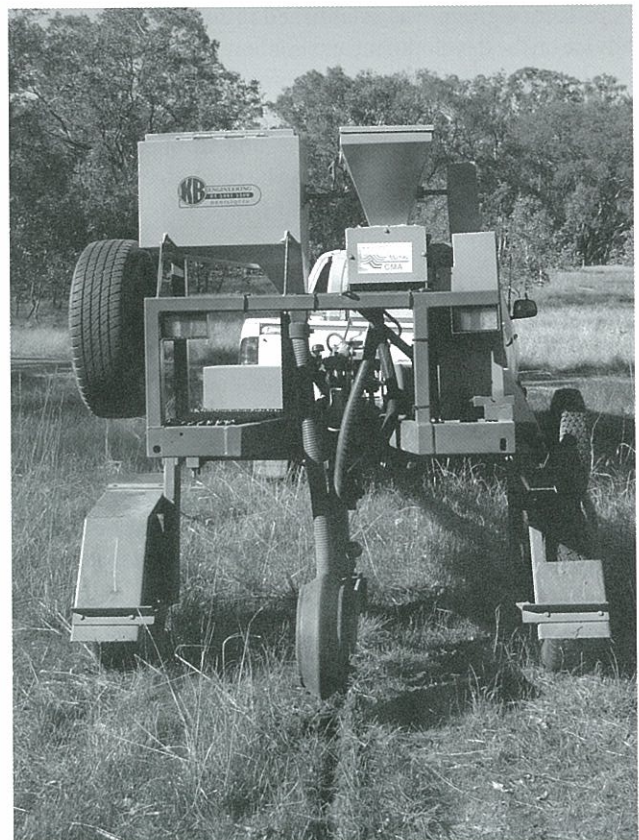


Figure 2. Murray Catchment Management Authority direct seeding machine in operation at Slate Hill.
Photo: Josie Stokes.

Conclusions

These three projects shared the objective of improving the management of high conservation value vegetation in linear reserves within the South West Slopes bioregion.

The construction of the Hume Highway Upgrade has resulted in new conservation areas that link with other linear reserves such as the travelling stock reserve network, which will be actively managed by the Murray CMA.

The revegetation work undertaken on *Slate Hill* by the Murray CMA provides information on new techniques for improving the extent and condition of Box-Gum Woodland. The outcomes of the Albury City Council roadside vegetation project guide the ongoing maintenance and monitoring of high conservation areas into the future.

While the key drivers for each project were different, by working in a collaborative manner, the outcomes were better targeted and will provide a longer lasting legacy for biodiversity within the region.

Call for plant stories for new Jane Goodall book

Dr Jane Goodall is renowned for her work studying chimpanzees in the wild. This has led her to active promotion of animal conservation around the world through speaking tours (see Jane Goodall Institute website www.janegoodall.org), and through books like her 2009 *Hope for Animals and Their World: How Endangered Species Are Being Rescued from the Brink* (Grand Central Publishing).

But Jane is also interested in supporting and promoting plant conservation, and is working on a new book devoted to it. Jane is calling for stories from plant conservationists around the world, about "plants being rescued from the brink of extinction, or conservation successes in plant breeding, worthy of consideration for this new publication".

Jane's collaborator Gail Hudson writes "We want stories that involve the saving and/or restoring endangered plants, trees, grasses, etc. and even sea plants. We would like stories to have a human interest angle, for instance a plant being rescued because of its sentimental or historical significance, or people risking their lives to save plants—a little human drama. We want stories that involve endangered indigenous medicinal or wild food plants. We want stories that involve people planting plants in order to restore an entire ecosystems or habitat for other endangered animals, insects, etc. We like stories that involve citizen and/or children participation—not just botanists (although we love botanists!)"

Jane and Gail will be accepting and researching new story leads through January of 2011. If you have a case study that you think would work for this book, send a precis (of no more than 1,000 words) to g.hudson@cablespeed.com by 15 January 2011. It doesn't have to be a formal document—just a casual summary of the project. Please include a phone number and email where the authors can contact you if they have follow-up questions.

References

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Grazing cattle in a Travelling Stock Reserve on the Western Slopes of New South Wales. Photo: Rosemary Purdie.



Remnant vegetation along a roadside verge in the wheat-belt of south-west Western Australia. Photo: Murray Fagg.