



Project participants inspecting a salinity control planting in the Harden district.

Herbarium lends landcarers the **vision of Hume**

Steve Davidson explains how a community pieced together a historical view of indigenous plant species to assist in landscape restoration.

As in much of Australia's grainbelt, vegetation in the Harden Shire of southern New South Wales bears little resemblance to the box woodlands that once graced the landscape.

After more than a century of clearing, cropping and grazing, some 3% of the original vegetation cover remains, and this is fragmented, impoverished and vulnerable.

So when the Harden Murrumburrah Landcare Group decided to restore the original vegetation communities, they struck a problem. How could they determine which species to use?

Early explorers and naturalists had described an area with a 'park-like' aspect

and 'thick grass and gay flowers' – not much to go by!

Remnants on roadsides, rail easements and cemeteries gave some idea of pre-European plant communities, but even these have been disturbed by grazing and other activities.

To find a solution, the Landcare group joined forces with the Centre for Plant Biodiversity Research, a joint initiative of CSIRO Plant Industry and the Australian National Botanic Gardens.

The resulting project, 'Greening the Grainbelt', has developed a floristic view of the original vegetation of the Harden Shire and compiled a list of plants for revegetation activities.

'We wanted a project based on scientifically defensible species composition with environmentally compatible planting lists,' Landcare group chairman, David Cusack, says.

'We could see our approach serving as a model for other Landcare areas throughout the country.' The group obtained funding for this from the Natural Heritage Trust.

Detective work

The Centre for Plant Biodiversity Research provided botanical guidance and information on plants native to the region. Much of this came from Australian National Herbarium in Canberra, a



Left: Early clearing for agriculture left little native vegetation in the Harden Murrumburrah district and elsewhere in the wheat-sheep belt.

Below: Director of the Centre for Plant Biodiversity Research, Judy West, and Landcare Coordinator and landholder, Louise Hufton, at work on the database project.

collection of 1.4 million plant specimens, some dating back 200 years or more.

The herbarium includes specimens collected by colonial botanists Joseph Banks and Daniel Solander during Captain Cook's expedition in 1770. Fortunately, some 40% of the collection is recorded in electronic form.

'We were able to search our records for all the plants collected from the Harden region during years and decades past,' centre director, Dr Judy West says.

'In this way we came up with a list of plants that we believe is representative of the flora of the region before clearing began: species that early explorer Hamilton Hume would have seen when he first laid eyes on the area in 1821.'

After the initial search of the database, other species were identified from local knowledge, from relevant research such as box woodland studies, and from specimen information indicating associated species.



An attractive understorey plant, *Hardenbergia violacea*, one of many listed in the Harden database as suitable for the region.

The field notes from specimen records also provided details of habitat and soils.

Various botanists, taxonomists, horticulturists and weed specialists added to the list and accompanying notes. The initial list of 500 candidate species was pruned back to some 400 by striking off some plants regarded as noxious or introduced.

A new resource

The end product of this collaborative effort is a database that includes a plant list and information on the original location of each species and its place in the vegetation community. Propagation and planting guidelines are also included.

'The database is a wonderful resource that will make it a lot easier to achieve our revegetation goals in the Harden region,' Landcare coordinator, Louise Hufton, says.

'We can set about revegetating saline seepage areas, eroded gullies, recharge zones, and other areas, confident that we are using appropriate trees, grasses, herbs and shrubs which belong there and which should do well.'

Hufton says the group intends to monitor and update information in the database. For example, landholders who use the database to search for suitable species for planting might also report unlisted species growing on their properties or perhaps different soil types supporting listed plants.

'From our point of view, it has been satisfying to work with enthusiastic local people on a practical and worthwhile project,' West says.

'It's also been a useful exercise to partially reconstruct an original flora through scientific examination of the nation's precious plant collections.

'The project was the first of its kind in Australia and we hope it will serve as a helpful model for other Landcare groups.'

The database and the report on the project are available on the World Wide Web at www.anbg.gov.au/greening-grainbelt.

