CASE STUDY

WINTERIGA

Integrating productive farming & forestry

WINTERIGA is the family farm of the Hunts. It is located west of Kalangadoo and has been managed by Nick and Rosalie since the early 1980s. The property produces organic apples, is in conversion to organic beef, some sheep, and has several woodlots. The annual rainfall is 760 mm.

The Winteriga property of 360 hectares was purchased by Nick's great grandfather, and most of the *Eucalyptus camaldulensis* (river red gum) were cleared. Following the Ash Wednesday bushfires of 1983, only 96 pre-white-settlement trees remained on the property. Since taking over the management of the property Nick and family have planted 7.2 km of shelterbelts and corridors, 8 hectares of biodiversity plantings and 18.6 hectares of woodlots, as well as fencing off 15 hectares of remnant vegetation. This is equal to around fifteen percent of the property. There are also large remnant *E. camaldulensis* scattered throughout the pastures and within plantations.

"One of the best, unexpected, outcomes of our foray into growing trees has been the friendships we have made with other like minded people. Field trips to the Australian Forest Growers Tree Farmer of the Year award winning properties of Peter and Chris Feast, Allendale, SA, and the Cornish family of Glenroy, have demonstrated local capability of farm forestry production. The work and ideas of people we have met through grower groups and field trips have helped motivate us to produce the best outcomes for our family, our farm and the environment."

Nick Hunt

One of the 96 remnant river red gums *(E. camaldulensis)* on the property.

Government of South Australia
Primary Industries and Resources SA

Aerial view looking south over Winteriga in 2007 showing how the trees have been integrated throughout the property in shelterbelts and woodlots, and the lack of pre-settlement trees.

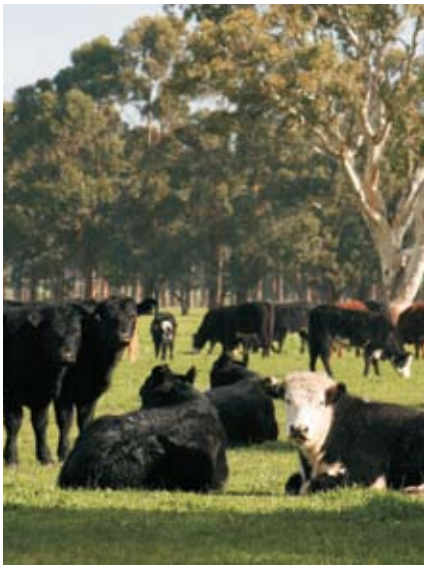
WHY INTEGRATE TREES INTO THE FARM?

Since taking over management of Winteriga, Nick and his family have undertaken extensive windbreak and corridor establishment, rehabilitated two wetlands, and planted numerous woodlots to create the best environmental effect. Trees now number between a quarter, and half a million; with encouraged natural regeneration adding to the extensive tree plantings. So what have been the main reasons Nick and family have gone to this effort on the farm?

One of the main issues at Winteriga was waterlogging of the flat plains. There were some areas of the farm that were completely unproductive in wet years. Nick has planted some of the worst affected areas to trees and let natural regeneration occur in others. It is in these waterlogged areas that Nick has planted woodlots of eucalypts for woodchips and sawlogs.

Shelter was another issue on Winteriga that Nick was keen to address. As most of the original trees had been removed both stock and pasture were exposed to weather extremes. Nick used the need for shelterbelts as an opportunity to trial different species and provenances of trees and used this information in further plantings. Almost all paddocks on the farm now have shade for stock, and the woodlots are available for emergency shelter at critical weather warning times. Although the property has moved away from sheep into cattle, and cattle are less demanding of shelter than sheep, the trees still help with pasture production and cattle growth rates, as well as making any shift back into sheep easier in the future.

An avid naturalist, Nick was also keen to provide habitat for native animals on his farm. He was able to do this by working with Trees for Life to plant endemic species into his shelterbelts. Nick also found a practical and economical way of growing native plants was to fence off areas allowing natural regeneration to occur.



Cattle grazing in a sheltered paddock with *E. camaldulensis*.

An example of the waterlogged nature of the sites.

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ESTABLISHING YOUR TREES

Nick has found that establishment is the most critical part of making your plantation successful.

"The weed control was not entirely up to scratch in one of my plantations and this is visible in the trees even nine years later."

At Winteriga site preparation has varied for every site, depending upon drainage requirements, access requirements and soil quality. Waterlogged sites, generally clay soils, were ripped and mounded as required. Ripping breaks through any impermeable layer allowing roots to reach deeper into the soil for water and nutrients, and giving the tree more stability to cope with windy weather. It is best to rip as early as possible, even a year before planting. Mounding stops the roots being waterlogged, which can cause tree death through a lack of oxygen to the roots. In other areas of the farm the sandy loam soil lends itself well to tree growing, with trials of ripping and mounding not showing noticeable benefits.

Weed control is the most important part of site preparation. Trees are especially vulnerable to competition in their first year and grow best with bare earth around them. However you may need to consider spot or strip spraying if you have soils which are vulnerable to erosion.

MANAGEMENT, HARVESTING AND MARKETING OF TIMBER

Winteriga has 23 hectares of harvestable timber including shelterbelts planted for timber production as well as the more traditional woodlots. Of this, 18 hectares is currently planted to *E. globulus* (blue gum) and will most probably be harvested at age ten for woodchips. The other 5 hectares consisting of a mixture of species is being managed for sawlogs.

In 2000 the Hunts received the first return on their investment with the harvesting of 6 hectares of *E. globulus*. The return ranged between $6-30 per tree from a ten year old plantation stocked at 1100 stems/ha. This area has been retained to *E. globulus* with the coppice from the harvested stems having been thinned to a single stem. It is planned that this will be harvested again around 2010. At this time the other 12 hectares of first rotation *E. globulus* that were planted in 2000 will also be harvested.

While management of woodlots for woodchips is an easy option as they only require successful establishment before harvesting at around 11 years of age, plantations for sawlogs are another proposition. Nick currently has 5 hectares of plantation suitable for sawlogs which were planted in 2000 including *E. saligna* (Sydney blue gum) and *Corymbia maculata* (spotted gum). As the trees have grown he has pruned them every six months and has used his cherry picker to prune to a height of around 8 metres. This means the trees will produce high value sawlogs with clear wood, which is knot free, as knots are remnant branches and degrade timber appearance and strength. PIRSA Forestry generally recommend pruning to 6.5 metres to ensure you are able to get a 6.1 metre log at harvest. The trees were also thinned in 2008 to a final stocking of 290 stems/ha. Nick and his family have harvested, processed and marketed the thinning waste as firewood and sold it into the local market around Penola and Mount Gambier. These trees should not need anymore ongoing management until they are harvested at between 25 and 30 years of age.

Many birds have returned to the property such as these Red-browed Finches *(Neochmia temporalis)*.

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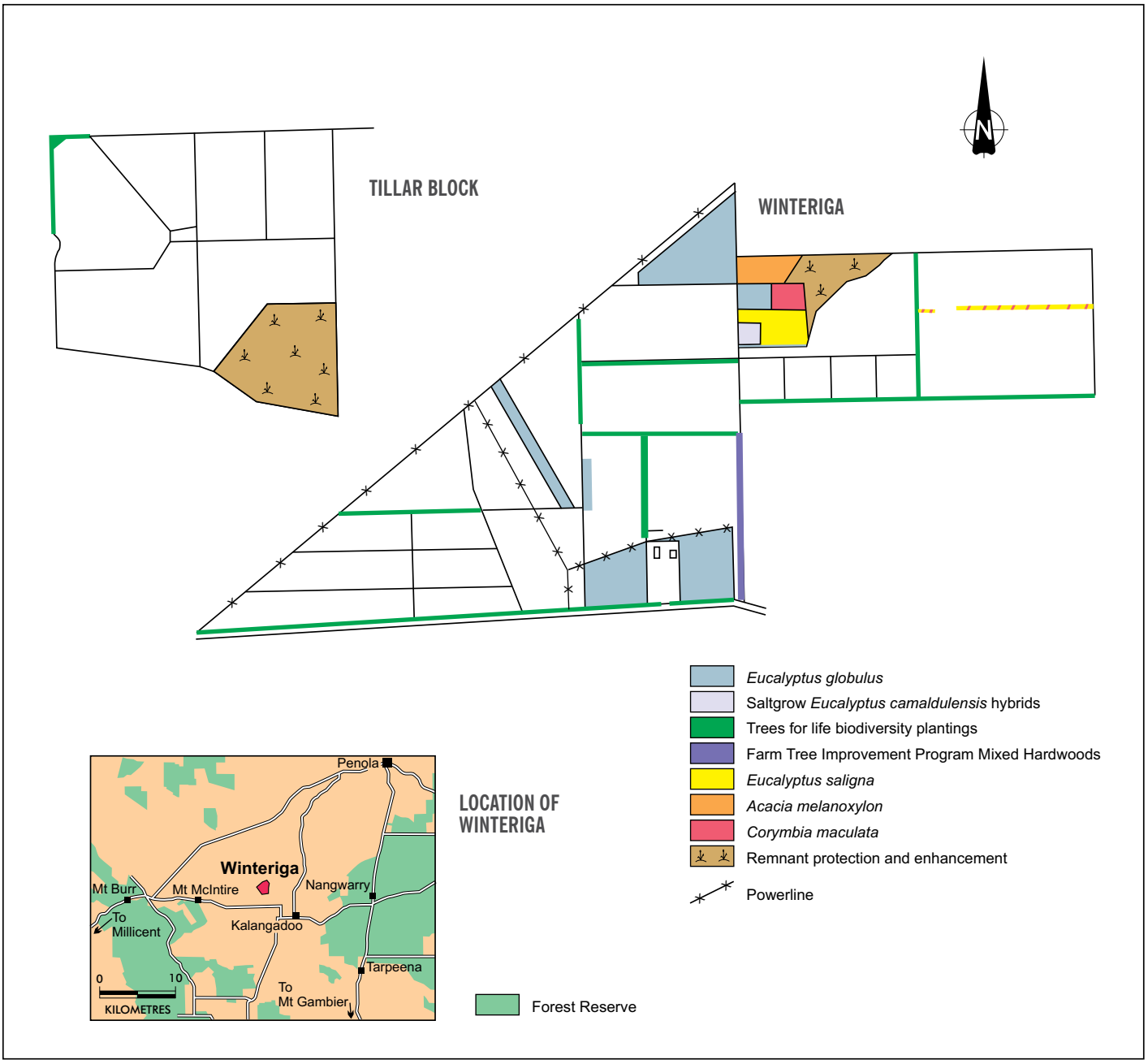
Harvesting of *E. globulus* in 2000.

Nick and son Lachlan splitting woodlot thinnings for firewood.

Participants at a recent field day discussing high value sawlog stands.

(Right) **Grey kangaroos find shelter and safety in the wooded sections of the paddocks.** *(Far right)* **Brolgas and other waterfowl enjoying the area of fenced remnant vegetation in the wetland.**



Map of Winteriga showing forest plantings.

If you would like information about integrating trees onto your farm PIRSA Forestry can offer establishment and ongoing management advice.

Call PIRSA Forestry on 8735 1226 or email pirsaforestry@saugov.sa.gov.au