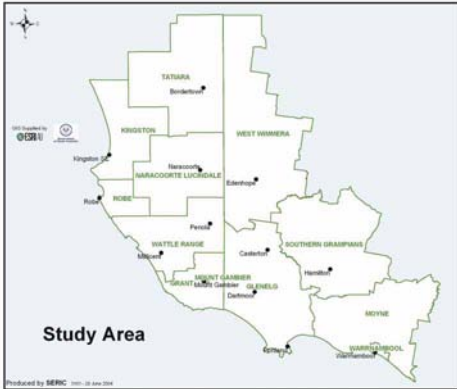


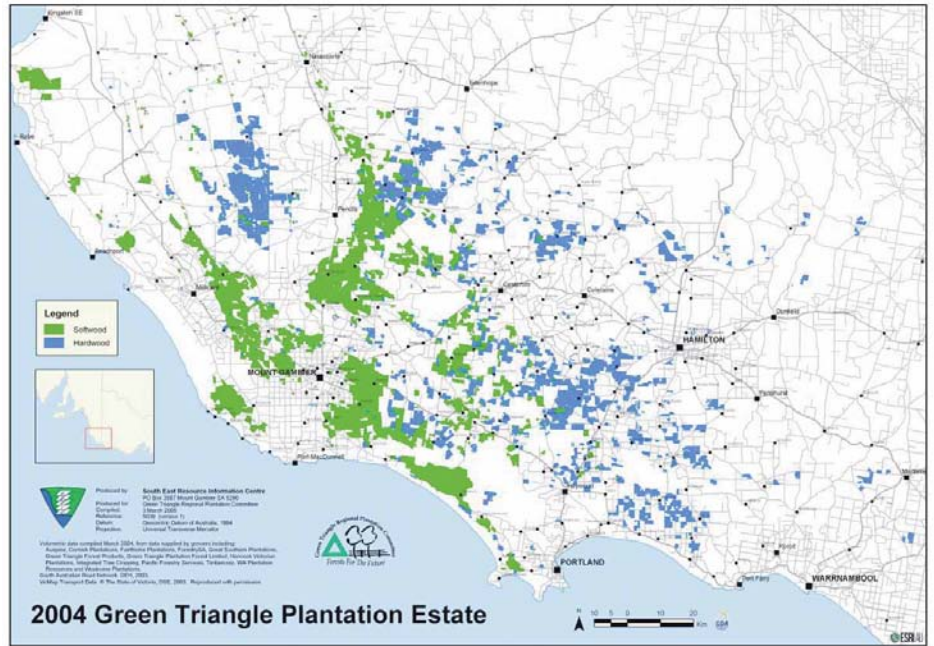
Protecting and enhancing biodiversity in a plantation landscape



Maps of Locality



Green Triangle Region



Plantation Areas

The plantation growers in the Green Triangle region have active programs to protect and expand native vegetation and enhance habitat for native flora and fauna within the plantation estate. While plantations represent less than 10 percent of the land area in the Green Triangle region, they and the downstream processing generate about \$778 million in annual gross regional product and provide employment for more than 8,500 jobs. These figures represent 16% and 12% of the total regional economy but also represent 30% and 23% of the primary industry production within the region.

While the Pine (*Pinus radiata*) plantations currently supply the bulk of the wood harvested, the contribution of the Blue Gum (*Eucalyptus globulus*) plantations will add to these numbers as these plantations reach harvesting age in the next few years.

The widely held perception that plantation estate consists purely of commercial products is inaccurate. Plantation owners also manage significant areas that are not planted for commercial production. Commonly a plantation area consists of 7% being occupied by roads, firebreaks and other infrastructure and up to another 20% or more can be retained in reserves or 'non-commercial' areas of native vegetation and habitat. These areas are often defined and prescribed under codes of practice to maintain areas of native vegetation, to protect waterlines, streams and wetlands and protect sensitive areas from degradation. These codes are administered under normal planning regulations.

These codes also prescribe operational practices, roading and roading standards, use of farm chemicals and fertilisers, erosion control, fire protection, etc. In addition, plantation owners are committed to maintaining international standards and have implemented programs to meet these standards using the triple bottom line philosophy of sound social, environmental and economic management. The two principal certification systems adopted by the growers are the Australian Forestry Standard and

the internationally based Forest Stewardship Certification. Both systems require comprehensive assessments of the social, environmental and economic contributions associated with growing trees. This means that plantation growers are operating using environmental management systems and best management practice.

With large areas of land within the plantation estate set aside as reserves and consisting of areas of remnant native vegetation, open grassy areas and wetlands, plantation development and management provides the opportunity to further enhance the Green Triangle region's native vegetation. This can be achieved by managing or eliminating grazing by domestic animals, and planting indigenous trees, shrubs and native grasses.

Increased native vegetation encourages the return of native birds and animals into the plantations which are less common in the open agricultural environment and also contributes to regional aspirational targets for native vegetation. The target in the Glenelg Hopkins Catchment Management Area is 30% or over 530,000 ha; this would require an additional 260,000 ha to be managed as native vegetation. Thus the non-commercial areas within the total plantation estate will be a significant contribution to meeting these targets.

The Green Triangle Regional Plantation Committee together with Greening Australia have put together a series of case studies of biodiversity enhancement that have been undertaken by plantation owners across the Green Triangle in recent years.

These case studies demonstrate the value of enhancement works, contributing to regional conservation targets and maintaining and enhancing the natural environment. They also offer an opportunity to re-establish corridors and networks between native vegetation within the plantations and adjoining areas of native habitat on private and public land.

Different Shades of Green:

Establishing biodiversity corridors in plantations of the Lower South East.



On first impression, the landscape of the lower South East of South Australia seems dominated by Radiata Pine and Blue Gum plantations. This is not surprising, as forestry is a major industry in the region, contributing significantly to the State's economy as well as providing many employment opportunities for the local community.

However, nestled in amongst the pines and blue gums there is a significant amount of remnant native vegetation. In the South East, ForestrySA manages around 13,500 hectares of native vegetation or 17% of ForestrySA's estate.

These areas offer habitat for a range of native wildlife, some of which are considered endangered nationally.

ForestrySA places great importance on protecting and maintaining the biodiversity of these remnants. Regular surveys are conducted and management plans are developed; actions that meet the requirements for Australian Forest Standard certification.

Biodiversity corridors are an example where ForestrySA has exceeded these requirements. Productive plantation land is being set aside for this purpose.

Some animals can travel between remnants patches of native forest, passing through plantations and grazing land.

Those animals that cannot, risk local extinction through the impacts of wildfire, inbreeding or predation from cats and foxes. For these reasons, the fragmentation of native vegetation is considered to be a key threat to our region's biodiversity.

Biodiversity corridors can reduce threats associated with fragmentation by linking native vegetation patches across the landscape.

As ForestrySA plantations are harvested, strategic strips of land are being direct seeded with local understorey species and a canopy is established from hand planting indigenous trees.

In this way, animal species within native vegetation remnants are offered a safer path for finding further food and shelter.

The use of a corridor may also make all the difference for an animal trying to find a mate – an outcome that will see the survival of its species into the future.

The nationally endangered Southern Brown Bandicoot, one of the species that may benefit from the biodiversity corridor plantings in the lower South East.

(Photo: Doug Phillips, Portland Field Naturalists Club)



“Planning for tomorrow’s biodiversity” is the theme behind ForestrySA’s South East Biodiversity Corridor Strategy.

The 25 year Strategy plans to restore native vegetation on over 70 hectares of existing pine plantation, creating strategic links between bushland areas. The Strategy is available online at www.forestry.sa.gov.au

It is expected that most of the corridors will be created in the first 10 to 12 years of the Strategy’s implementation. Planting at five corridor locations is already underway.

The issue of fragmentation is not restricted to ForestrySA’s estate. Some of the corridors recommended in the Strategy will be dependent upon partnerships between private landowners, local council and other plantation owners. With all stakeholders involved, the corridor network can be extended across the Green Triangle region.

In the Lower South East, funding from the Natural Resource Management Board has been secured to support the establishment of strategic corridors on private and other lands.



Volunteers help to plant indigenous trees and hand direct seed a biodiversity corridor in the lower South East

Get Involved!

With support from the local community to develop biodiversity corridors, regional populations of threatened animals such as the Yellow-bellied Glider and the Southern Brown Bandicoot will be maintained and enhanced.

A Project Officer is hosted by ForestrySA to assist landowners to undertake fauna surveys, prepare a site and select species for revegetating their own biodiversity corridor.

Seed collection, hand planting and on-going monitoring of flora and fauna will provide opportunities for community involvement both as individuals and groups such as schools, catchment groups and ForestrySA’s Friends of the Forests volunteers.

If you are interested in biodiversity corridors on your land or would like to get involved with an existing corridor in the lower South East, contact ForestrySA on (08) 8724 2888.



Volunteers weeding a biodiversity corridor between two conservation areas

From Towering Pines to Tiny Fish

The rehabilitation of Glenaulin Creek



Emerson's Plantation was farmland purchased in the early 1970s for planting of pines to complement other plantations owned by Hancock Victorian Plantations nearby. The original land clearing completely removed the native vegetation from some creek lines, an activity which would now be prevented by native vegetation retention regulations.

Following the purchase of the farm by HVP in 1974, the cleared areas were planted to pines. Those original plantings have now matured and the final harvesting has occurred. In planning for the establishment of the second pine crop, HVP has been establishing stream side reserves particularly to protect the habitat of the Variegated Pygmy Perch.

In the 1990s statewide biodiversity surveys identified the Glenaulin Creek, which runs through Emerson's Plantation, as part of the natural and restricted habitat of the Variegated (or Ewen's) Pygmy Perch; a newly described species of native fish.

This small (4cm long) freshwater fish was first found at Ewen's Ponds just across the border in South Australia only a few years earlier.

The Pygmy Perch has now been recorded at a number of locations within the catchment of the Glenelg River and some coastal catchments of southeast South Australia.

The species is still considered threatened as several known populations have disappeared in recent times.

Surveys indicate that the Variegated Pygmy Perch only occurs in streams with little or no silt and here the link to plantation management becomes apparent.

One of the first actions HVP made to enhance the habitat was to remove all domestic grazing from the property. This encouraged native trees, shrubs and grasses to revegetate and stopped the destruction of creek banks by hard-hoofed animals.

As part of HVP environmental management processes, soil movement was identified as a risk. Undisturbed vegetation in the streamside buffers will reduce the risk of soil movement into the Glenaulin Creek.



Variegated (or Ewen's) Pygmy Perch
(© Michael Hammer)



2002 riparian revegetation adjacent to replanted pines.

To prevent possible sedimentation of the creek in subsequent operations, HVP actively expanded the streamside buffers along the creek. Planting native tree and shrub species along these expanded streamside buffers offers further protection to the stream integrity and also provides a wildlife corridor to adjoining areas of native vegetation.

HVP with assistance from the Department of Sustainability and Environment and funding through the Glenelg Hopkins Catchment Management Authority have planted over 8000 seedlings adjacent to the creek.

These plantings and considerable natural regeneration of some native species will protect the existing riparian vegetation along Glenaulin Creek as well as providing a significantly wider buffer to filter silt from overland flows of water to the creek.

Growth and survival rates of many of the plantings have exceeded expectations (see photo above) and a riparian wildlife corridor is rapidly developing through the plantation. This corridor links areas of remnant forest in the upper catchment of several small creeks with smaller patches of forest on adjacent private land and potentially downstream to the Glenelg River.

FOR MORE INFORMATION:

Ruth Ryan, Hancock Plantations
Mt Gambier (08) 8724 6700

Green Triangle Regional Plantation
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Greening Australia – Portland
(03) 5521 7856



Revegetation (foreground) with the narrow strip of remnant riparian vegetation in the middle distance and larger hillside remnant in the background.

Acting Locally

Restoring connections across the Smokey River Valley



With a network of managed plantations in the upper reaches of the Crawford River (locally known as the Smokey River), Integrated Tree Cropping (ITC) has been able to co-ordinate works on several properties to develop strategic links at a catchment scale.

A significant proportion of the land in this part of the Crawford River catchment has been planted to Blue Gums by several plantation companies.

ITC manages numerous large plantations in the upper reaches of the Crawford River catchment. These properties have a range of remnant vegetation types including wetland and riparian habitats, woodlands and open forest vegetation on the lower and middle slopes.

ITC in conjunction with Greening Australia, has undertaken a series of assessment and planning processes for the non-commercial parts of these properties.

Bushland and wetland areas have been assessed for their vegetation quality, fauna, habitat and broad conservation significance. Key management issues and potential enhancement works have been identified in parallel with these assessments.

These assessments have confirmed the presence of several endangered ecological vegetation classes (EVCs) and populations of significant species of flora and fauna.

The nationally threatened Growling Grass Frog is present in wetland areas, and the nationally vulnerable Clover Glycine (a native relative of the soybean) was located in one bushland

remnant. Broilgas are also known to inhabit wetlands on the properties.

Grazing has been excluded from properties where it would have a detrimental effect on remnant vegetation or waterways. This has allowed significant natural regeneration to occur.

The change of land use to forestry has seen vast improvements to waterway health and has occurred without the expense of fencing as would be the case in a traditional agricultural landscape.

Environmental enhancement in wetland areas consisted of scattered plantings to supplement existing species of native wetland tussock plants and a range of riparian trees and shrubs in both 2003 and 2004.

Away from the wetter areas, weed control was carried out prior to direct seeding and the planting of cell-grown seedlings.



Flowers of the threatened Clover Glycine at the Lynvale property. Photo: Doug Phillips



Recent monitoring indicates that in most areas, revegetation has been highly successful with good establishment of trees and shrubs. Several native grass species are also recolonising the site.

The impact of riparian plantings is already apparent along sections of the Crawford River with significant increases in shrub density. It is anticipated that these plantings will make a major contribution to both wildlife usage and improvements in water quality in the next few years.

The effect on local biodiversity will probably be equally significant. Ongoing monitoring will indicate which plants and animals benefit most.

Improvements in water quality in the Crawford River will almost certainly benefit biodiversity downstream, including the Endangered Variegated Pigmy Perch, a small fish that only exists in far southwestern Victoria and nearby parts of South Australia.

It is hoped that the Yellow-bellied Glider, currently living in isolated populations further downstream, may also recolonise this part of the Crawford catchment within the next couple of decades.



Direct seeded vegetation establishing adjacent to the Crawford River.

FOR MORE INFORMATION:

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Greening Australia – Portland (03) 5521 7856