

# NEWSLETTER

## A BRIEF LOOK AT SOME OF THE PROJECTS AROUND AUSTRALIA

In this edition has a collection of article from around Australia with information on how to undertake your very own revegetation project. Along with some of the stunning results on what can be achieved from a variety of project from around Australia.

If planting trees is not you cup of tea how about bush regeneration using a variety of methods to achieved some really good results

Included in this edition is information on weed control to brochures that have been given to me to stimulate and help facilitate better projects for the community and the individual ..... 3



**NEXT EDITION**  
 Articles will be due in by the  
 19/9/97  
 For a October newsletter

## QUALITY ASSURANCE PROGRAM FOR REVEGETATION

To carry out this snap shot survey of how success full we are at revegetation I need to know the following -

- Soil Type
- Rainfall
- Species of plant
- What type of tree guard use if any
- If a herbicide was used if any fertilizer used if any
- Burning the area prior to planting
- What method of planting was used.
- Information on what the growing conditions were like e.g. was dry year on a north facing slope and I had 70% survival of species X and 20% survival of species Y
- And or any other relevant information that will be help full. In the third edition of this newsletter

All information will published hear in the

thought about dedicating this newsletter to such as topic but I decide not to. Well since I got such as good response from every one about ideas for this new volume. I decided to keep to the original topic of You or Your communities projects. Sound corny I know but most of have some time in our life participated in community community project. so I thought I it would be good idea for to what has happened with some of the project we have all worked on.

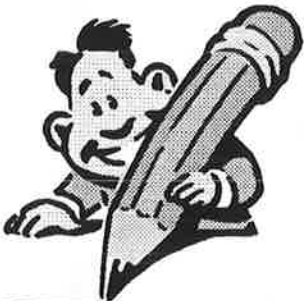
My first project that I worked on was back in 1982 planting tress along a corridor of the River Torrens said to say this but nearly all the tress were bulldozed to make way for the O'Bahn Busway.

Our Quality Assurance Project is looking good presently we have two landcare groups who are feeding me in information I am presently negotiating with another

*Cheers*

*Matt Pearson*

## *Editorial*



Welcome to the season of preparing the your sight for revegetation I

# THE PROJECTS AROUND AUSTRALIA

## FLORA RESCUE PLAN: MIDLANDS HIGHWAY REALIGNMENT REPLANTING

(From a report by Susan M Wells, Plant Records Officer, Royal Tasmanian Botanical Gardens, Tasmania, originally printed in *Danthonia* Volume 4 Number 4, March 1996. Reprinted with kind permission of Sue Wells.)

Populations of *Calocephalus lacteus*, *Carex tasmanica*, *Dianella longifolia* var *longifolia*, *Velleia paradoxa*, *Vittadinia gracilis* and *Vittadinia muelleri* were threatened by Department of Roads and Transport (DRT) road-works. A rescue operation was carried out on July 27, 1993 by the Royal Tasmanian Botanical Gardens (RTBG) at the request of the DRT. One community of plants with conservation significance between Tunbridge and Ross, and three communities between Campbell Town and Conara were identified as being at risk from road-works planned for these sections.

Of the plants in the first community, *Calocephalus lacteus* and *Dianella longifolia* var *longifolia* occur only sporadically in Tasmania and are reserved only in the Tunbridge Nature Reserve. In the second area, *Velleia paradoxa* and *Vittadinia gracilis* are recorded as vulnerable, confined only to a few sites in Tasmania, with the former plant being unreserved within Tasmania and the second only reserved at Tunbridge.

*Carex tasmanica* and *Vittadinia muelleri* in the same area only occur sporadically in Tasmania, and again the former is unreserved and the latter reserved only at Tunbridge. The "rescued" plants were taken back to the RTBG Nursery for propagation and care.

### Propagation

Most plant material was collected as clumps and subsequently divided into 125, 175 and 255 mm pots, using RTBG native potting mix. *Vittadinia gracilis* was further propagated from seed. Larger plants such as *Dianella longifolia* var *longifolia* were further divided in the spring of 1994 and also at the time of replanting. Potted up plants were stored in the open Nursery area until replanting time.

### Replanting

The plants propagated at the RTBG were replanted along sections of the completed roadside on October 11, 1995.

**Site 1:** *Dianella longifolia* var *longifolia* and *Calocephalus lacteus* were planted in three major groupings. All three situations were in slight hollows of an exposed, open roadside site adjacent to pasture land. The soil was undisturbed good sandy loam of mudstone origin, moist and well-drained. The plants were well watered. The weather was sunny with a maximum temperature of 17 degrees Celsius.

**Site 2:** *Velleia paradoxa* and *Carex tasmanica* were planted into undisturbed good moist chocolate loam of basaltic origin, at the lowest point between two small hills. The site was exposed and open, and approximately 1 m below road level. The plants were placed between tussocks of *Poa* species, giving the new plants some protection.

**Site 3:** *Vittadinia gracilis* and *V. muelleri* were planted in one grouping where there were small naturally occurring seedlings of *V. muelleri*. Both were also planted in three other groupings. All were planted into good moist chocolate loam of basaltic origin and which contained stones. The site was very open and exposed on a very slight slope facing NNW. Surrounding roadside vegetation of low grassland consisted of tussocks of *Poa*, *Asperula*, *Plantago* species and *Plantago varia*, *Taraxacum officinale*, *Holcus* species, *Dichondra repens* and *Wurmbea dioica*, etc. The plants were well watered. The weather remained sunny with a maximum of 17 degrees Celsius.

### Monitoring

At this stage there are no plans for monitoring the replanting of all three sites other than chance visits while passing. Mrs Philippa Baird, who lives nearby, stopped by and expressed an interest in the project, and will be sent a copy of this report.

## ERYNGIUM ROSTRATUM (BLUE DEVIL)

Max Atkinson, Coromandel East

*Eryngium rostratum* is a perennial plant that is rare to endangered in South Australia, where it has been reported as occurring in the Southern Districts to the Flinders Ranges, Kangaroo Island and the South East. Its range also includes other parts of eastern Australia and temperate South America (*Flora of South Australia*, 1986, p. 989). The genus *Eryngium* contains about 230 species, most of which are South American. About seven species (including three introductions) occur in Australia. The four Australian native species are *E. plantagineum*, *E. rostratum*, *E. supinum* and *E. vesiculosum*. *E. maritimum* (*Encyclopaedia Botanica*, Frances Rodkin, 1990, p. 400), from the Mediterranean region, is a common garden plant which is known as Sea Holly.

At first glance, *E. rostratum* looks like a prickly thistle. However it belongs to the family Umbelliferae, whereas most true thistles are from the family Asteraceae. When it is in flower, the mature plant of *E. rostratum* is a vivid electric blue. It is up to 30 cm tall, and very prickly.

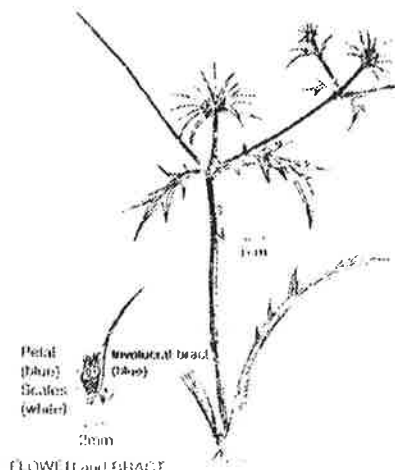
Paradoxically, grazing stock, rabbits and hares find the new shoots most palatable. The new shoots appear in late winter from a fleshy rootstock. By the beginning of December, plants are showing good colour, with many flower-heads. As the soil moisture declines with summer drought and heat, the plants set seed and the above-ground portions dry off and die. Seed germinates in early spring provided that there has been adequate winter rain.

For the past twenty years or so I have been aware of *E. rostratum* growing at Coromandel East. At

first I took no pains to identify it, thinking it to be a rather pretty weed. Unlike true thistles, it was not invasive and spread only slowly. Eventually I decided that it was time for this "weed" to be eradicated; but I first took the trouble to have it identified. It hardly needs to be

said that, once its identity and conservation status were established, the eradication programme rapidly changed to one of protection.

*E. rostratum* is an attractive plant that should adapt well to a small site in a rock garden provided that it is able to have a dry summer period with little artificial watering. Seed that I planted in shallow seed trays in autumn and kept moist over winter germinated well the following spring. Subsequent growth after pricking out has been slow but steady. Perhaps it will be possible to have a few plants available for future plant sales! ☼



Did you know? Emus are great revegetators. A farmer from Wangary collects emu droppings and uses the seed in them for propagating tubestock. Confirmation of the value of these birds comes from Dr David Langdon of the Monarto Zoo. Dr Langdon says that the seed from the native plants that emus eat germinates well, whereas that consumed by rabbits and domestic animals is rendered sterile. ☼

On Sunday, 31st March 1996, SGAP members visited Churinga Holiday Cottages on the Coles Bay Road. We were led by the owner, Tony Marriott, through nearly 40 hectares of beautiful Heathland which must be quite a sight in spring. Plants ranged in size from low growing *Astroloma pinifolium* to stately *Allocasuarina littoralis* with the odd eye-catching red flash of *Epacris impressa*. Other plants included *Banksia marginata*, *Xanthorrhoea australis*, *Leptospermum scoparium*, *Leucopogon collinus*, *Stylidium graminifolium*, *Acacia sophorae*, *Hibbertia riparia*, *Epacris lanuginosa* and the Parson's Bands orchid, *Eriochilus cucullatus*.

We passed through a small forest of *Eucalyptus ovata*, *E. amygdalina*, *E. viminalis* and *Acacia mearnsii* with the odd shrub of *Ricinocarpus pinifolius* before entering a stand of *Melaleuca pustulata* surrounding a very peaceful lagoon sprouting native water reeds. I think some of us thought this was the end of our excursion until Tony led us further on through the *Allocasuarina/Eucalypt* forest with *Exocarpos cupressiformis*, *Lomandra longifolia*, *Acacia verticillata*, a strange clump of *Melaleuca gibbosa*, some *Ixodia angusta* (now *Odixia angusta*. Ed), *Villarsia exaltata*, *Myriophyllum* and *Lobelia sp.*

Then came more lagoons and the scenery! Stunning unspoilt views of the Hazards with the serene lagoons in the foreground, lined with healthy bushland in all shades of green.

Our next excursion was led by Mark Lawson, a ranger for the Department of Lands, Parks and Wildlife, to Friendly beach. We had lunch at the Lookout where Mark explained a brief history and management plan of the National Park. We then set off down the windswept hillside, amid wind-pruned and stunted shrubs and trees, a scramble over sand-dunes through *Acacia sophorae* to the pure white, dazzling sand, surf and green water.

#### WESTERN CREEK TREK

Margaret Donaldson

Inspired by our visit to Ben Lomond in January we decided to follow through and take a look at *Bellendena montana* when their seed pods were at the height of their glory. Sue Waite kindly offered to show us these at the top of Western Creek when the time was right. After a few postponements we finally made it on Sunday 21 April. Quite a crowd of us met and proceeded to make our way along Western Creek. It wasn't until the waterfall that we realised that we were actually climbing up to the plateau; well of course, where else would the Mountain Rockets be? The weather was not good, being overcast and damp. Some of the group decided to return to base after reaching the waterfall, but they had already seen much of the wonderful diversity the valley wall had to offer. The remaining party continued upwards until at last the top was reached, and even in the closing mist the area was a wonderful sight.

During our journey we had passed through a number of vegetative regions. The wet sclerophyll forest offered a canopy of *Eucalyptus delegatensis* (), *Acacia melanoxylon* (Blackwood), *Telopoea truncata* (Waratah) and many other species all mingled with the distinctive aroma of *Tasmania lanceolata*, the Mountain Pepper. Running into this forest was the rainforest with *Nothofagus*, *Richea cunninghamii*, and the pines; Pencil, King Billy, Celery-Top and a local hybrid of Pencil and King Billy, *Athrotaxis laxifolia*.

The montane area had everything you would expect to find: *Baeckea*, *Olearia*, *Orties*, *Boronia*, *Richea scoparia*, *Cyathodes*, *Leptospermum*, *Epacris*, *Ewartia*, *Euphrasia*, *Gentianella diemensis*, *Gleichenia alpina* (Alpine Coral Fern) and of course the *Bellendena montana*. Unfortunately most of the rockets (red seed pods) had finished but we did find enough to satisfy ourselves.

On the return journey via a steeper path we passed through a fantastic collection of ferns and mosses, including *Dicksonia antarctica* (Soft Tree Fern), *Blechnum* species, *Asplenium bulbiferum* (Mother Spleenwort), *Histiophleps incisus* (Bat's Wing Fern), *Microsorium diversifolium* (Kangaroo Fern) and *Pteridium* species (Bracken Ferns).

After returning in the rain we all enjoyed a most welcome hot drink at the Waits.

Next year we plan to return in March when the plateau should be a mass of red rockets and we will have the added benefit of daylight saving. See you there!



## Rare mallee clings to life in an industrial wasteland

**Bushcarers:** Vicki Hagan & John Roper

**Site location:** St Vincents Road, Lonsdale

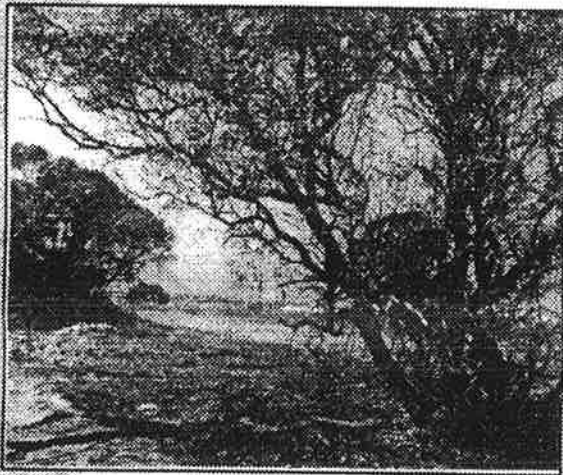
**Site established:** June 1995

**Hours spent on site:** 150+

**Weed species treated on site:** Mustard weed, scabiosa, onion weed, soursob, artichoke thistle.

The vegetation along St Vincents Road is one of the few remaining patches of mallee south of Adelaide, and is home to several species which are locally endangered or rare, including *Acacia cupularis* and *Calocephalus semipapposum*. It is historically and botanically significant.

The road once led to the local tip and was badly infested with many different species of weeds. In March 1995, the Noarlunga City Council closed the road to vehicles and placed locked gates at each end. In August, the council helped remove four 20-tonne truckloads of consolidated rubbish. One teenager estimated that there were enough car parts strewn along the road to construct three entire vehicles, including seat covers! Unfortunately, the pool table which had been dumped there was no longer functional.



After the removal of the rubbish, and the fire which burned a large area last summer, the weeds went wild, with mustard weed head-high along most of the road. As the site is badly degraded in most areas and contains more than 35 species of weeds, many from dumped garden refuse, the first priority was to reduce the amount of seed dropped by the weeds and so reduce the work in 1996. This was accomplished by removing mustard weed, and careful use of a whipper-snipper in areas where no native plants remained. Hand weeding was used to repair the damage to the florally rich 'good bush' patches. This process will continue for several years, with gradual revegetation of the most degraded sections.



Once this vegetation community would have formed a protective canopy over the whole area, but with clearance for agriculture, the elongated strip along the roadside is exposed and buffeted by harsh winds from the south west and north west. The vegetation is badly stressed and the trees are dying back. Mitsubishi Australia has generously given permission to plant a shelter belt on its land, west of the site, to protect the vegetation and increase the chances that this site can be saved. Rabbits arrived on the site at Christmas and will need to be controlled if the shelter belt is to succeed.

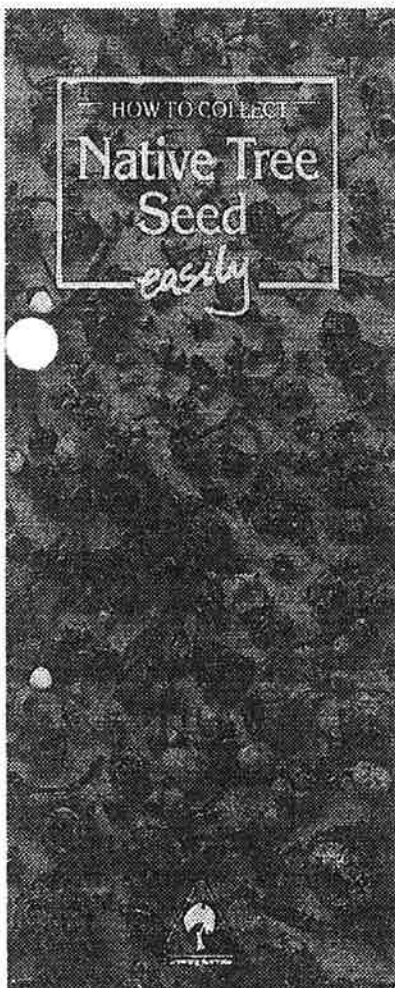
During the summer of 1995-96, seeds of the trees and shrubs on the site have been collected and propagated, along with native grasses and ground covers, and will be planted in a shelter belt this winter. Approximately 1500 seedlings will be planted, and some hand direct seeding will also be done.

Above: A fire went through part of the Lonsdale site last summer, promoting lush weed growth later in the year. Below: Bushcarer Vicki Hagan with one of the *Acacia cupularis* seedlings raised from seed she collected from rare remnants on the site.

A group of 17 people turned up ready and willing to tackle some of Fern Tree's specific environmental weeds, under the direction of Kris Schaffer, wearing her Landcare hat, and Kerry Keatley, the Hobart City Council Bush Care Co-ordinator. The problem has arisen mainly due to the higher altitude, rainfall, and berry-producing plants (mostly of English origin) combined with the birds which have been attracted to our gardens. The area to be tackled was the Pipeline Track from the top of Cleg Road to 'The Bower'. However that area was not fully completed as a disused track was found which, due to disturbance, was discovered to be invaded by:

- *Coprosma robusta*, a type of New Zealand mirror-bush, a shrub to 3 m.
- *Ilex aquifolium* (holly), a tree to 25 m.
- *Berberus darwinii* (Darwin barberry), a shrub to 3 m. This plant is highly volatile and should not be planted near your house. There are plenty of good specimens to be found around Fern Tree, so do we need them in our environmentally sound gardens?
- *Hedera spp.* (Ivy). This climber not only produces berries on maturity but also strangles native understorey. Both leaves and berries are poisonous.
- *Rubus fruticosus* (blackberry) Say no more!! Birds carry berries in their droppings. This was graphically highlighted with certain areas 'rich' in seedlings of these berry producing plants.

Further working-bees will follow discussion of methods of dealing with weeds, tools used, safe herbicides and what plants may be used as substitutes.



There are many reasons why Australians should plant more trees. The right trees in the right places can provide shade and shelter for stock and wildlife, reduce soil salinity and erosion, improve water supplies, enhance landscapes, and provide timber and other benefits.

There are distinct advantages in basing such plantings on species native to the planting area, since these are usually well-suited to local conditions and in harmony with the landscape and wildlife. Such plantings also help conserve genetic resources for future generations.

Trees are generally propagated from seeds and air growth is greatly influenced by the choice of high quality seeds. Seeds or seedlings of many native tree species can be bought but may be costly or even ill-adapted for local conditions — in these cases it is best to collect your own seeds. Collecting can be easy, inexpensive and is especially rewarding when you see your trees prospering and growing.

This leaflet shows how to plan and undertake seed collection, and lists some literature giving further information.



Many wattles produce large quantities of seeds which are easy to collect. Shown here are pods and seeds of the black wattle (*Acacia melanoxylon*).

**On the following pages are some excerpts from some Greening Australia brochures - The brochures are usually available from Greening Australia or branches of Men of the Tress or Landcare or another revegetation organizations**

## Boys' Brigade tackles a big Bushcare task at Karinya

**Bushcarer:** Blackwood Boys' Brigade (Leaders: Rick Williams & Kevin Burrows)

**Site location:** Karinya Reserve - Eastern Section

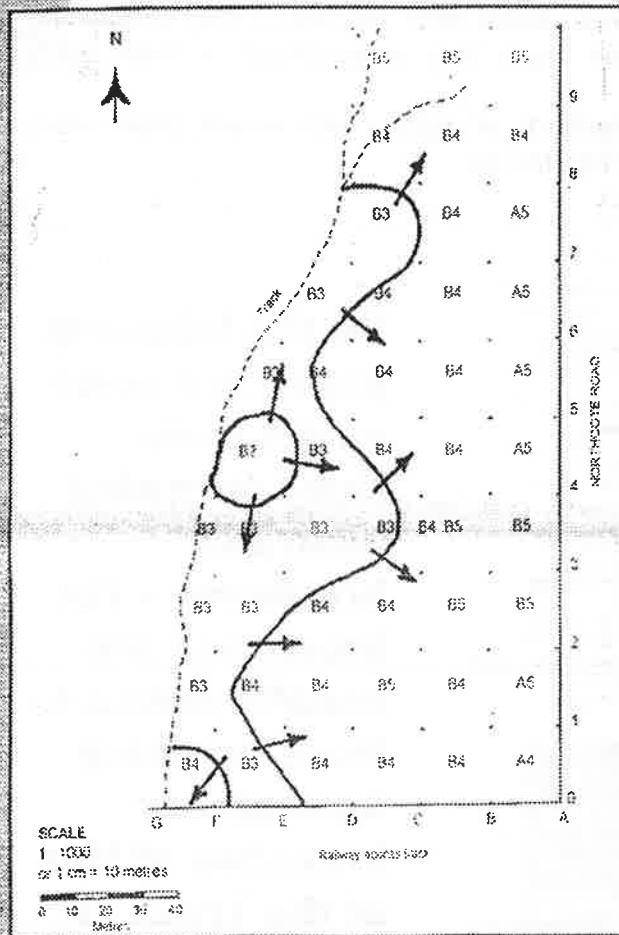
**Site established:** November 1994

**Hours spent on site:** 6-10 people spend about 3 hours per month

**Weed species treated on site:** Boneseed, *Monadenia bracteata*, Bridal Creeper, Olives

Rick Williams and Kevin Burrows organised for the Blackwood Boys' Brigade to work at Karinya Reserve prior to the establishment of the Bushcare program. Now, the group is working with the help of Bushcare and is working to a plan. The Boys' Brigade looks after the eastern section of the reserve (a huge task in itself), but there is already another site established in the western section of the reserve.

The reserve contains an excellent example of Grey Box woodland vegetation. This vegetation type is now conserved in quite limited areas, so keeping this reserve in good condition is of high priority. Aside from the reserve containing an uncommon vegetation type, there are also several uncommon plant species on the site.



Above: A grid map of the Karinya Reserve has been constructed to help in weed location and management.

The site was 'gridded up' to aid in locating oneself while working there. This is so that specific weeds can be more easily located (not because people may get lost!). The grid system also helped to map the site and will be a useful monitoring tool.

It's a huge job looking after this reserve. It may take some years before all the Boneseed is removed. While this appears the most rampant weed, it isn't. The group has pulled out many *Monadenia bracteata* and is also ensuring that Bridal Creeper never gets a foothold, by spraying infestations before they get too big. These weeds can infest good bush, so they are a higher priority for removal.

This reserve does have some problems that are beyond the control of the Bushcarers. Horses have been left to graze in some parts of the reserve, apparently while the riders have had a rest. This has caused some damage. Nearby residents have also been dumping rubbish from their gardens.

Despite these problems, considerable progress has been made. Many areas are now regenerating with sedges, grasses and other small plants. It is difficult walking on the site in some parts because the human footprint can do so much damage to the many lilies and ground-covers that can be found there. So, to all the Blackwood Boys' Brigade - well done!



# Friendship and persistence prevail at Pengilly

**Bushcarer:** Students at the Murray Institute of TAFE, with Andrew Philpott

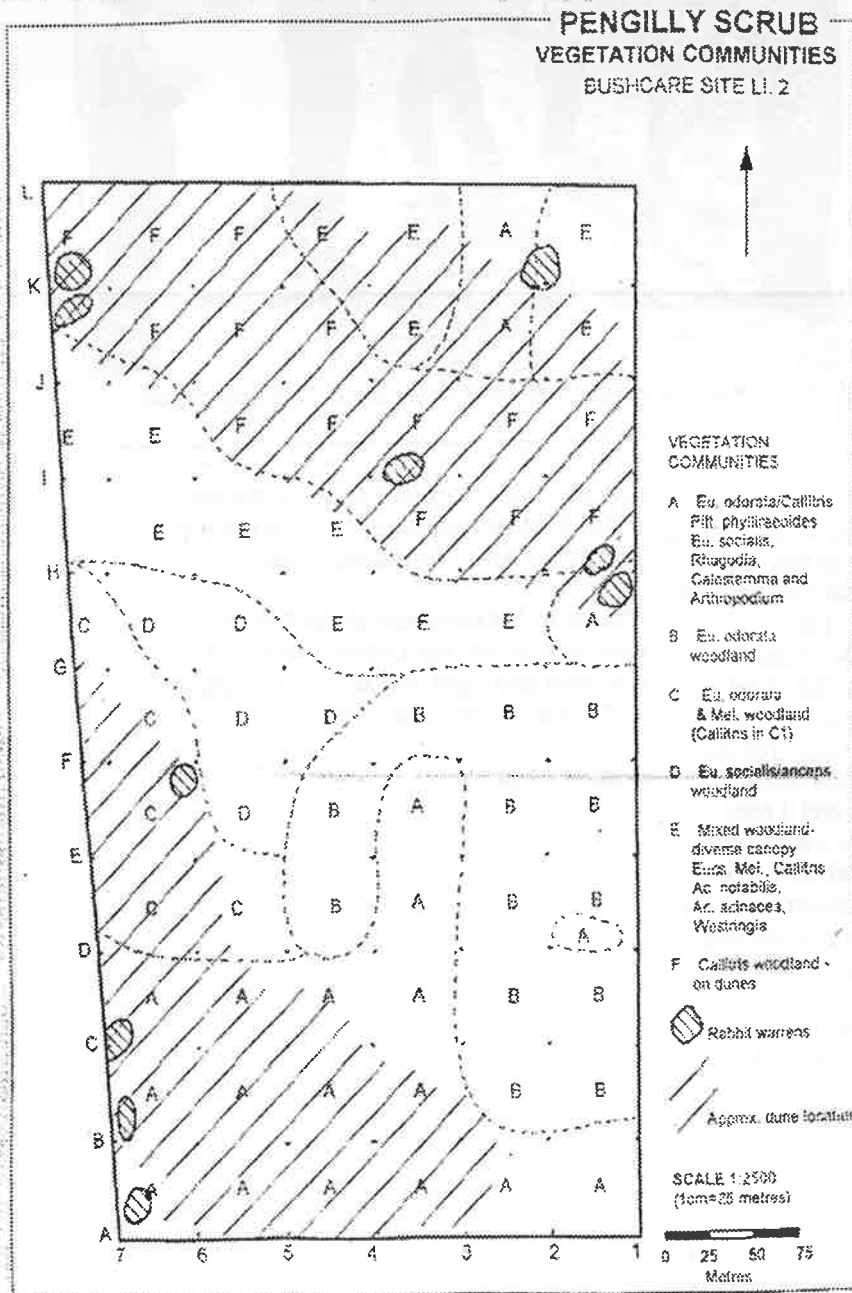
**Site location:** South of Wasleys, on the northern Adelaide Plains

**Site established:** October 1994

**Weed species treated on site:** Bridal creeper, soursob, African boxthorn.

This 18-hectare patch of scrub was acquired by the District Council of Light, now Kapunda and Light, around 1978. About 10 years later it was placed under a heritage agreement.

The reserve grades from open mallee into *Callitris* woodland and shrubland. There is also an impressive diversity of shrubs, creepers, orchids, lilies, mosses, lichens, fungi and many ephemeral species that I am still trying to come to terms with. There are two low sand dune systems running through the otherwise level reserve that adds to the diversity of vegetation.



The front of the reserve looks like so many areas of remnant vegetation in that the tree and shrub layer are reasonably intact but the groundcover layer is highly disturbed. It is not until you reach the centre of the block that you can see some truly impressive remnant vegetation, particularly at the micro level. There is about half to one hectare of this highly intact bush.

The Pengilly Bushcare group was born mostly from student involvement in horticultural and land management studies at the Gawler campus of TAFE.

Since working in Pengilly, we have achieved the virtual eradication of African boxthorn within the reserve and on the surrounding roadsides. This species was targeted first as it was a manageable project and some consideration was given to the idea that this species may indirectly aid in the dispersal of bridal creeper fruits via birds that utilise both pest plants.

Nearly half the block has been re-fenced with the inclusion of rabbit-proof netting. It is hoped that the reserve will be rabbit-proofed by the end of next year.

Above: Site map of Pengilly Scrub. The area was subject to light to moderate grazing before it was bought by the local council and placed under a heritage agreement.

The front of the block had heavy infestations of bridal creeper. Over the Queen's Birthday long weekend, the group sprayed about three-quarters of this area, plus spot spraying throughout the reserve. We couldn't have asked for a better turnout for the weekend, nor could we have asked for better results.

**Shrubs that were breaking under the weight of the creeper are now growing through the dead stems. Native grasses, mosses and lilies - and soursobs - are emerging.**

We have carried out a rabbit baiting program and on-going phostoxin work in the reserve. This has impacted on the population but it will be a continuing battle until the reserve is rabbit proofed. Some people are convinced that this has led to a recovery in orchid populations in the reserve, but others are not too sure.

### **The future of Pengilly**

I am very confident that Pengilly is on the road to recovery. The Bushcare group has given itself five years to remove bridal creeper from the reserve. Once rabbits have been controlled, we can start the more interesting tasks of rehabilitating the more disturbed sections of the reserve. This could involve the reintroduction of rarer plant species that are growing in similar soil types in the district. Many are just hanging in there and it may take only one accident, such as a road being graded too wide, and they would be lost to the district. I am also looking forward to some direct-seeding trials with native grasses and herbaceous species to displace sour sob.

Although not a big block, Pengilly has the potential to become a secure location for many of the plant species growing on roadsides in the area.

**Don't despair this spring when you see your favourite little patch of scrub covered in flowering bridal creeper. Pick a piece and smell the sweet scent and make a quiet promise that you will be back next year and the year after with your spraying**

**gear. Just keep working away at it - nobody can ask more than that.**

I guess the strength of the Pengilly Bushcarers is the level of friendship and support between members. I mean, spraying weeds is fine, but I look forward to a quiet drink and some food



*Bushcarers at work, renewing fences around Pengilly Scrub.*

with my co-workers at the end of the day. In short, Bushcare work needs to be fun if you wish to achieve a sustained effort.

*Thanks to the members of the Pengilly Bushcare group, the District Council of Kapunda and Light, the Murray Institute of TAFE and Andrew Allanson.*

*Andrew Philpott*

## Rubber boots are essential, as Bushcarer dodges frogs

**Bushcarer:** Karen Lane (Regional Co-ordinator for Mitcham)

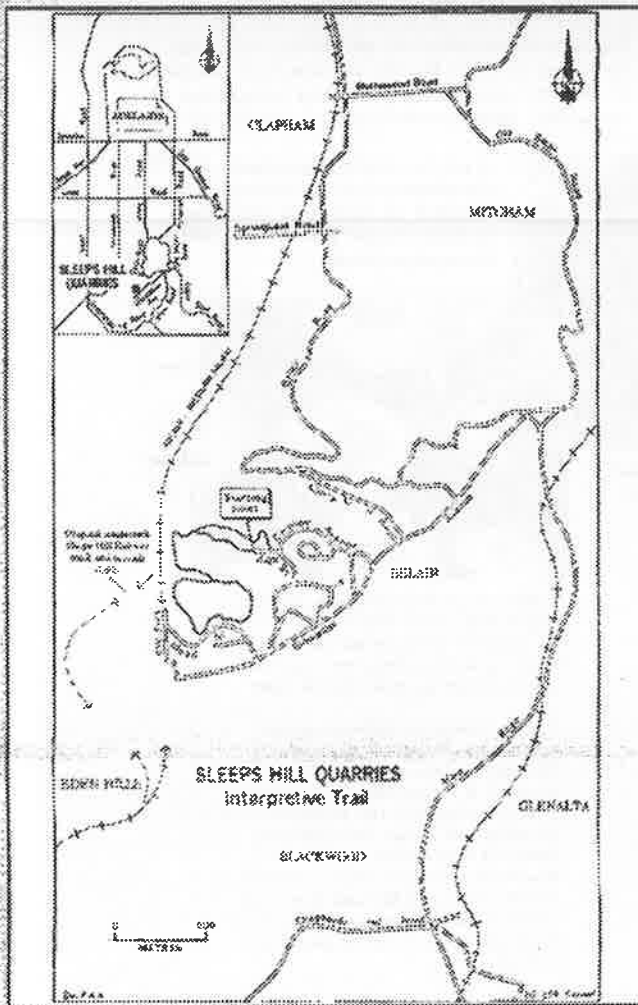
**Site location:** Sleeps Hill Reserve

**Council:** City of Mitcham

**Site established:** 1995

**Weed species treated on site:** boneseed, olives, ash and willow trees

Of the 17 Bushcare sites in Mitcham, five - including my own site - are within or near the Sleeps Hill Reserve. This area was extensively quarried from early this century until the 1950s causing extensive degradation, especially along the creeklines. Unlike many of the early quarries in the Adelaide area, the Sleeps Hill quarries were left open, exposing many interesting geological formations and leaving examples of early quarrying methods. This actually enhances the interest of the area, and Sleeps Hill has recently been placed on the State Heritage list. You can find old railway bogies, quarrying screens and other interesting bits and pieces in the area.



Extensive Bushcare work has been done here to clear mainly boneseed and olives, which in most areas completely cover the reserve. Mitcham Council has given us considerable assistance, sending in workers to remove by chainsaw the large olives and ash trees which were too labour intensive for Bushcarers to handle. Bushcare and the council's weed eradication program now work closely together to maximise the work being done to save the best indigenous vegetation in Mitcham.

There are many interesting indigenous plants found in or near the Sleeps Hill area, including quite a number with a listing of State or Australian conservation significance and some just very hard to find locally now. I have identified more than 120 indigenous plants and am still finding more. These include sedges, rushes and native grasses. A number are represented only by one or two small populations in the reserve or local area. In fact, I know of six plants that are down to the last two or three specimens. I hope I can find more nearby. Meanwhile, these plants are being propagated and replanted onto adjacent Bushcare sites, in addition to all the weed clearing that is taking place on the sites.

My Bushcare site is a small piece of wetland in an area where an old quarry building was removed. It was 100 per cent covered with ash and willow trees two years ago, when I started. The regeneration of wetland plants here is phenomenal. How many Bushcarers need to wear rubber boots in summer to weed their sites? I also have to share the area with lots of frogs (makes weeding difficult) and superb blue wrens. It's a tough life, this Bushcaring! The area adjacent to the wetland is very weedy, and my plans this year are to replant some of the rarer local native plants in the area and to continue clearing weeds from around the sedges and rushes growing there. *(Continued on next page)*



(Continued from previous page)

Mitcham Council has taken part in the Trees For Life Bushcare program since it began in 1994. There are about 70 Bushcareers hard at work in this area - and we still need more! These areas of foothills are very important to rehabilitate, revegetate and generally look after as they contain an extensive *Eucalyptus microcarpa* woodland. *Eucalyptus microcarpa* (Grey Box) and its associated understorey once occurred extensively across the Southern Adelaide Plains, from the Sturt River into Adelaide itself and through suburbs such as Urrbrae and Netherby. None of this Plains forest exists today (except in name only, the suburb of Black

Forest was named after the beautiful Grey Box forest that occurred there). We can use the foothills vegetation for replanting projects on the Plains if we can protect what is left. In fact, this is already being done. Many of the plants being used in the Urrbrae wetlands project are being grown from cuttings and seed collected in the lower Mitcham foothills, and a small Grey Box woodland is being recreated at the wetlands.

You are welcome to visit any of the Mitcham Bushcare sites. Pictured (left) is a map of the Sleeps Hill walking trail. An excellent trail guide is available from the Mitcham Council offices.

Karen Lane

## Urban Forest Program plans first round of plantings

The South Australian Urban Forest Biodiversity Program is gearing up for its first round of plantings at key sites across Adelaide.

At least 150 people, including employment program participants, National Parks and Wildlife staff, Friends groups and other volunteers, will be involved in planting about 50 000 seedlings on 50 hectares and direct seeding a further 25 hectares using local species. Altogether 150 000 plants will be established across the Greater Adelaide Region.

Local government, Commonwealth-funded work experience trainees (supervised by Freshstart and Eastside), Greening Australia, Trees for Life, the Australian Trust for Conservation Volunteers and Rotary are also playing an important part in the Program's revegetation work.



*Eucalyptus porosa* (mallee box) woodland which once occupied a belt from North Adelaide north east to Salisbury and the 'Ponchey Belt' from Salisbury north to the Gawler River.

"Some sites are in good condition requiring maintenance and protection while others are currently in poor condition but provide the opportunity to reinstate original native vegetation and make links with larger areas," said Program Manager, Ross Oke.

Sites range from the size of a backyard up to 120 hectare lots. By encouraging links between these sites and the people involved in revegetation work, the Program aims to increase the biomass of metropolitan Adelaide and create wildlife corridors to help re-establish original native fauna - reptiles, birds and small mammals.

Other work already carried out on these sites over the past six months includes removing 2000 woody weeds from public land, propagation of 20 000 seedlings, collecting local seed for nursery stock and direct seeding, and constructing fences and walking trails. At Cobble Creek Recreation Park bat boxes have been built and installed.

The Program was launched by the Minister for the Environment and Natural Resources, Mr David Wotton, in late April and is supported by all levels of government.

It is building on more than 30 years' work by community groups and individuals. "This is the first time we've had a strategic overview for the whole region. We can give people support so that they don't feel they're acting in isolation," said Mr Oke.

Some of the resources being developed by the Program include an information network service for access by the community, provision of materials, funding and advice for revegetation projects and a Strategic Biodiversity Plan for the Adelaide region.

Educational materials are also being developed including resource kits for schools, bird monitoring kits and a proposed video for teachers integrating curriculum studies with local and regional projects.

A poster displaying historic plant associations for the Adelaide Plains is available as a planting guide for individuals and groups involved in restoration work.



*Helichrysum leucopsidicum* (salt everlasting) which once formed part of the understorey in low shrubland and heath vegetation along the coast from North Haven south to Hallett Cove.

These photos and information are taken from the poster, Forests and Woodland of the Adelaide Plains in 1836: A Native Vegetation Guide, 1997, produced by the Department of Housing and Urban Development, based on information by Daerell Krachenbuehl of the Department of Environment and Natural Resources. These posters can be purchased from the State Tree Centre for \$4.00 plus postage.

For more information contact: State Tree Centre, Brookway Drive, Campbelltown - ph: 8207 8767.

Funds for the Program have been committed by the South Australian Departments of Environment & Natural Resources and Housing and Urban Development, Adelaide's Metropolitan Open Space Scheme (MOSS), Commonwealth Department of Employment, Education, Training and Youth Affairs, Environment Australia's Green Corps Program, Local Government Association and councils. Links are also being developed with the Torrens and Patamulonga Catchment Water Management Boards.



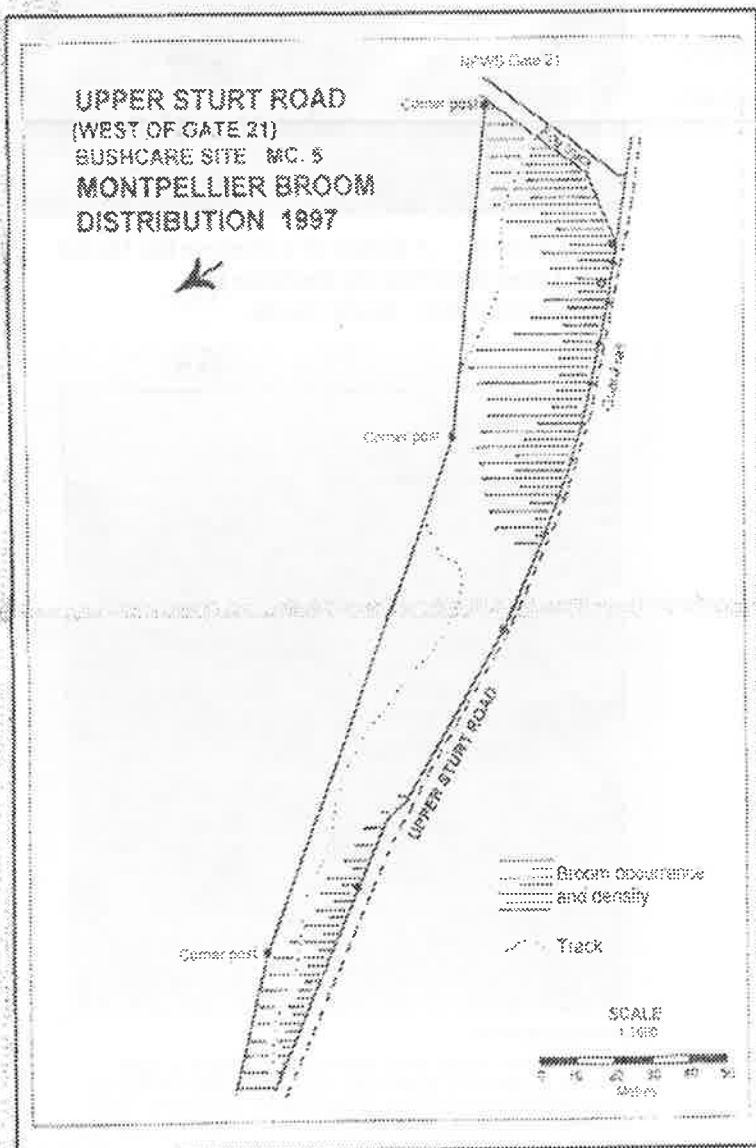
## *Echidnas make their way back to Upper Sturt*

**Bushcarer:** Sue Mier and members of the Walking for Fitness and Pleasure Group

**Council:** Mitcham

Echidnas have appreciated the big effort put in by 12 bushcarers at the site on Upper Sturt Road, which is bounded by Belair National Park and the road. What was at first thought to be heavy handed weed removal was actually areas dug over by echidnas. The soil had little holes where their noses had burrowed into the soil in search of ants!

The site is located in a transitional vegetation community from *Eucalyptus leucoxyion* woodland in the most western areas of the site, to *Eucalyptus obliqua* open forest toward the east. Most of the site has a shrub layer and a diverse range of lilies and orchids.



Montpelier broom (see page opposite) has been the biggest problem, but with dedication and hard work, one ridge is clear of broom and *Briza* grass. Other threats include vehicles parking inappropriately and rubbish dumping from local residents.

A maximum of three to four bushcarers work on the site at any one time. The willing workers are on a roster and meet at the end of each year at the site for an informal get together.

Bushcarers started with the least effected area towards the middle of the site and are gradually working outwards to the worst effected areas.

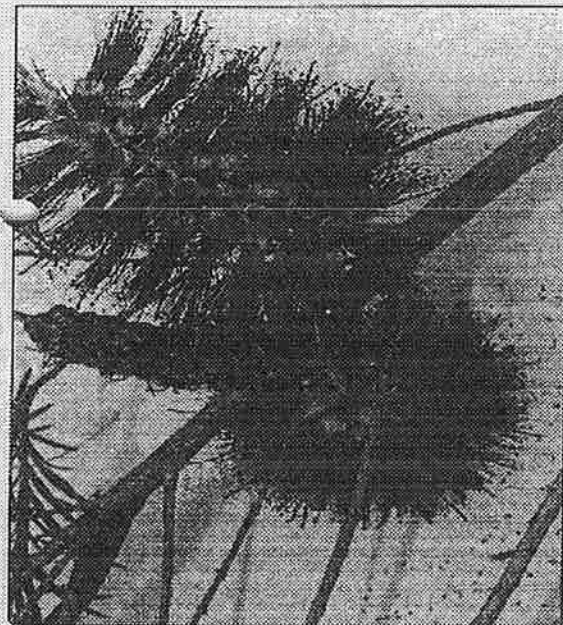
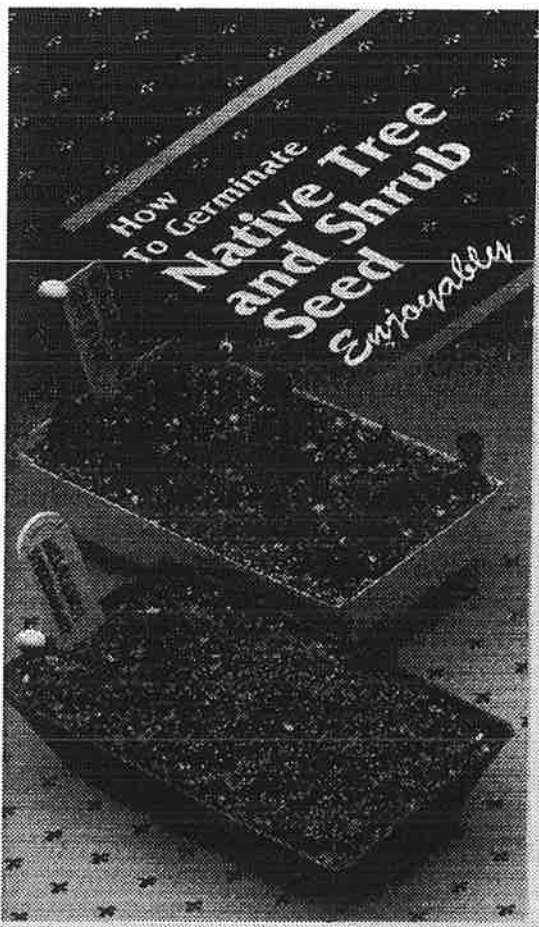
*Continued page 3*

Freesias are on the agenda for removal but it will not be easy as they come from bulbs under the soil.

Many significant plants have been found on the site including the orchid *Duiris Lanceolata*, a donkey orchid with yellow flowers. This discovery caused great excitement as no-one had ever seen it before. Other orchids have been discovered and documented by Doris Gillespie - who is one of the oldest bushcarers in SA at age 79. She is responsible for the herbarium and keeps an accurate record of all plant species found on the site.



Duiris Sp. : A picture of a Donkeys Ear Orchid  
Taken from Near the Bushcare site  
Photographer : Beply Jacobs



#### Introduction

Suitable tree cover with the right trees in the right places, grown the right way, helps maintain the land's productivity and beauty, and attracts birds and other wildlife. This pamphlet explains how to germinate native tree seed - it complements a previous pamphlet *How to collect native tree seed easily*. Although written mainly about trees, much information in the pamphlets also applies to shrubs.



# THE VALUE OF FRINGING VEGETATION ON NATURAL DRAINAGE LINES

by Luke J. Pen, Water and Rivers Commission

The value of fringing vegetation on creeklines is seldom appreciated until it is lost. Not only does fringing vegetation play an integral role in stream ecosystems, by causing shade providing a rain of leaves which are food to stream invertebrates, it also has two more fundamental functions. Put simply, these are the slowing of the flow of water, through friction, and the support of bed and banks by roots.

For land owners wishing to alleviate flooding, hastening rather than slowing the flow of water seems, on the surface, to be a logical course of action. But speeding up the flow of water comes at a price, which is the increased energy content and hence destructive capacity of the flowing water. This is especially the case on cleared land where greater than natural runoff rates can produce large volumes of swiftly flowing water, far

in excess of the capacity of natural drainage lines which were formed by the more moderate floods of the natural catchment.

In this situation fringing vegetation is needed more than ever to both reduce the destructive capacity of flood waters and prevent erosion of the bed and bank. Initial erosion is prevented by the protection afforded by sedges and grasses, whose dense root systems provide the superficial support to the bed and whose dense leaves reduce near bed flows considerably. The roots of trees and shrubs provide structural support needed to prevent saturated banks from collapsing during floods or from elevated groundwater levels.

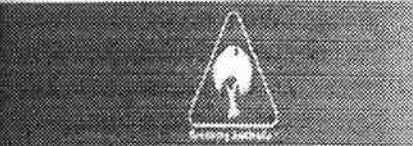
In farmland areas fringing vegetation need not be natural to afford the functions described above.

Perennial grasses and fodder shrubs can be used and grazed sufficiently to enhance flow without compromising channel protection.

In the absence of protective fringing vegetation, creeklines and artificial drainage lines begin to erode. The rate at which this occurs depends on the cohesiveness of the soil, but eventually the denuded creek will start to eat into the paddock and new feeder creeks will begin to head cut their way outwards from the original channel. The result is, that where there was once a narrow creek with a narrow riparian zone, there will be a broad area of erosion, which will be costly to repair. Ironically, it is often at this stage that people develop an appreciation for the value of fringing vegetation.



Ungrazed vegetation on the right hand bank prevents silt being washed into the creek.  
Photo G. Olsen



## PREPARING MY OWN TREE PROJECT



### PREPARING MY OWN TREE PROJECT

The right trees at the right places, given the right way, can provide many benefits to you and in the community. This leaflet sets out a checklist for planning two projects to help you obtain more benefits at less cost. You could find the leaflet especially helpful during the early planning stages, and when you are choosing tree species.

- Whether your tree project is on private property or somewhere else, the following should be considered:
- the needs of your property or the project site;
- your preferred species of trees;
- what you want to do, and
- deciding and doing.

### THE NEEDS OF MY PROPERTY OR THE PROJECT SITE

The best way to begin is to take a large sheet of graph paper and draw on it a map of your project area, at least roughly to scale. Indicate, preferably by ink, existing fences, buildings, roads and tracks, creeks, dams and so on. Include anything outside the area which may affect your tree project such as an adjacent highway or airport, or a nearby creek.

Sketch, in pencil, the trees already on the area. Make notes on the sizes and their general health. If you plan to clear some riparian areas or land to remove some trees, rub these out. Then ink in the areas where you intend to have trees. The squares of the graph paper will help you in calculating the size of the area that will remain covered in trees.

Mark on your map of the project area where there are problems, or which present opportunities for improvement. For example, identify those areas which are eroded and why, silt, overcast, ugly, under used and so on. Think of trees as the vegetation needed for the project site.

Make a heading 'The needs of my property or the project site' and list them by category.

Search areas in pencil where you think that adding trees would help solve the problems and make use of the opportunities you have identified. Don't worry too much about detail at this stage. For example, it may be that you might consider filling in the corners of paddocks with trees, or perhaps establishing shade belts for stock, and perhaps for fences, or corridors for movement of wildlife between 'island' areas.

Using squares on the graph paper, calculate the size of new areas of trees that you have marked. This gives you an idea of how much work you would need to do to meet the project area needs.

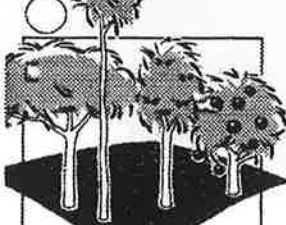
### WHAT I WANT TO DO

Now ask yourself how much time and money you are really prepared to spend on tree establishment. Consider these questions:

- Am I going to do this before any other improvement to the property, or after some other work is done?
- Am I prepared to tend trees for a long time after they have been established, or do I expect to leave them to look after themselves without care for a few years of establishment?
- How much time and money am I prepared to spend on tree establishment and care?

Write your answers to these questions down under a heading 'What I want to do'.

You should now have three lists: 'The needs of my property or the project site', 'My preferences' and 'What I want to do'.



### DECIDING AND DOING

At this point, armed with your three lists, examine further the question of species. Seek out information about species from any convenient source - people, books or pamphlets.

As you do so, further develop the three lists. Compare them. Are they compatible? Do the list of needs list things down the list of your desired species preferences (try to specify as many of these as you can. What species will solve your purposes and what can they be placed? How long at your answers about what you want. Do these clash with your other list? For example, have you indicated a preference for a shrub or tree species which will require ongoing attention, but also said that you don't want to spend time tending your trees? Be honest and realistic.

If several items are important to you and you can't choose between them, for example the need to give trees for shade and your desire to cut trees for firewood or timber, consider increasing the size of your tree area and growing a mixture of species. Perhaps widen your timetable to raise rows - instead of, say, three rows which may be enough to provide shade. Be imaginative.

Remember, trees often have more than one purpose! For instance, a windbreak listing two forested areas would be used by shade for shade.

Look closely at your map and decide whether some of your project area needs and your own preferences could be met by fencing and allowing natural regeneration. Fencing is likely to be more costly and time consuming. If you plant some trees for a start, will the look to natural regeneration help those trees to be successful. What methods will save your time and money?

Ask everyone you care for information about species but be clear in your own mind about what you want from your trees. Ask specific questions. How high does the species grow? Does it have double trunks? What will happen if it is pruned? Will the leaves be left on the ground? Do the leaves have sticky or oily or waxy or resinous? Will it damage house foundations, power lines or sewer pipes? Would shade or other undesirable plants be damaged? Refer again to your lists. Be realistic and consistent in your choices.

Now go back to your map. First mark your own project sites, then mark the areas for tree corridors, rows, for natural regeneration, for direct seeding and for planting. Write in the names of the species you intend to plant and seed. Mark out these areas that will be covered in trees.

Decide your tree program in manageable objectives. One should be an annual target. Put your map up on a wall where you will see it every day. Get started.

Finally, keep a record of what you do and the results. Prepare some questions you could ask yourself, for example: What did the project cost? How successful were the wind control measures used? What percentage of seedlings are alive 12 months after planting? What caused any losses? Keep simple records to help you answer your questions and improve your future methods. Choose good places for taking photographs - take photographs before tree growing begins and periodically from the same places after that.



## REVEGETATING THE PENNIUP CREEK AREA

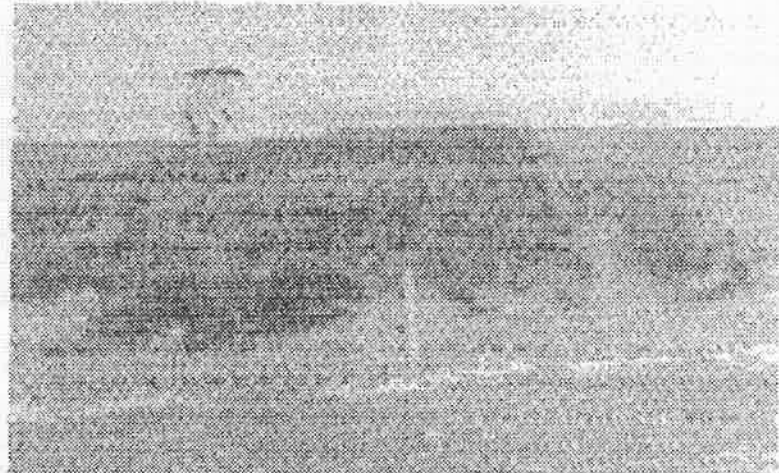
Gary & Marian Gilmore, farmers

*Editor's Note:* The following contribution comes from Marion and Gary Gilmore who were the surprised recipients of a special Gold Greening award (as well as a finalist in the Primary Producer award) in the recent (Oct '96) John Tonkin Greening WA awards. They are also the providers of B&B accommodation under the name of "Eularna" for a bit more diversification! (See article later in this issue).

When we looked at our property, 1355 hectares, approximately 30 km south west of Jerramungup, of mostly sandy gravel soils with a bit of everything including red and grey clay, yate and iron-stone gravel, we saw the great need to revegetate overcleared areas. We purchased it in May 1988 and there were many degraded parts and areas at risk of degradation, in fact around the house was like a desert!

Our first task, we saw, was to fence existing bush to prevent further decline and then to endeavour by tree and bush understorey revegetation, contour banks, planting of salt tolerant grasses (as necessary) and other conservation management to stop any further wind and water erosion, waterlogging and further degradation. It would also help with shelter for us and our sheep.

Our first priority was to save the existing bush (both remnant and degraded) by fencing off from stock - using 5 wire electric (the most economical). These areas, approximately 450 acres with something like 20km of fence, including creeks and water courses have not only contributed in the prevention of further land degradation but have ecologically created soil sustainability. This has



Approx 2yrs after direct seeding...

helped to encourage natural pest control predators, wildlife corridors for native fauna and flora a good genetic resource for native plants and an aesthetically pleasing outlook (and incidentally a great ecotourism potential). The seasonal abundance of colour with flowers is just a wonderful bonus.

With the wealth of seed in our bush, we have incorporated annually in our farming programme (5500 sheep and some crops) seed collecting of mature seed for bush regeneration. We collect mature seed after visiting healthy bush

areas to check maturity and heavy seed formation, from November to early February from vigorous plants growing in groups (for cross pollination) and dry them on black plastic in well ventilated light dry areas - we seed at approximately 2 kg of mixed seed to one hectare mixed with agras (after soaking Acacias in boiling water briefly) in June/July (ground wet and warm). If necessary we spray with Fusilade or Sertin as weed control is most important and those sprays do not harm native species. The ground is prepared by spraying and light cultivation and the seeds are sown using existing machinery - an International 511 combine.

We believe on our undulating land that probably a paddock of 150-200 acres, preferably of a rectangular shape, should have a shelter belt across the main wind direction of 12-13 metres (or wider, particularly on a crest).

With broadacre Primary Production the direct drilling of native seed is the easiest and most economical replacement of native vegetation - a must for the future sustainability of our land.



Beginning a revegetation project