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ISSN: 1327 5496

Hindmarsh golf day Page 5



Multicultural Landcare Page 6

Landcare awards

Pages 7, 10 & 11



Meet the broom psyllid Page 9

Create your own wetland Pages 12 & 13



Seeds to trees Pages 14 & 15

Catchment management Pages 17 - 19



Junior Landcare Page 21

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From the editors

Welcome to the first edition of the new millennium.

This March, we welcome Landcareoriented people from all around Australia and the world to Landcare 2000, the first International Landcare Conference.

Since Landcare's inception in Victoria 14 years ago, the movement has grown at a rapid rate. The fact that Victoria is hosting such a conference at the start of the century augers well for Landcare during the next 100 years. Now is a good time to look back over the foundation years of Landcare and the catchment-wide planning philosophies and learn from what has been achieved.

In this and future editions, we will be ensuring that the National Dryland Salinity Program has a voice in *Victorian Landcare and Catchment Management*. We will bring you new research findings and information about salinity, and explore ways to deal with this critical issue.

Following on from our native seed collection feature in the Summer edition, this time we look at how you can propagate trees from the seed we taught you to collect.

In another timely feature, Sue Mudford from Trust for Nature Victoria explains the basics of designing wetlands on your farm to lift bird habitat values – for the brolga in particular.

March has traditionally been Landcare Month, however this year, with the Conference and Landcare Awards both occurring in this month, Landcare will have a week of concentrated efforts during August instead.

To the Victorian finalists, good luck at the National Landcare Awards!

Paul Crock Jo Safstrom Gabrielle Sheehan Carrie Tiffany

Bull sisters storm Landfest

Renowned sisters-in-song, Vika and Linda Bull, will be the lead act at Landfest this month. Held at the Creswick Landcare Centre, Landfest features over 60 stalls with local produce, food, wine, information and displays. There will be a grand parade with some wacky water creatures and lots of great local talent. Landfest is on Sunday 19 March, from 10am-4pm. Contact the Creswick Landcare Centre on (03) 5345 2200.







Nature Is Not A Temple, But A Workshop, And Man's The Workman In It.

Nature Is Not A Temple, But A Workshop, And Man's The Workman In It.



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Birdies galo





By Greg Barber Hindmarsh Landcare Network

The Hindmarsh Landcare Network in the Western Wimmera region of Victoria is endeavouring to make Landcare an activity which is caring for both our land and well- being of our rural communities.

The network has held a number of social activities encouraging interaction between groups and is promoting Landcare meetings as social occasions and a good excuse for a BBQ. This aspect of Landcare is becoming increasingly important for many rural communities with the decline of some local sporting clubs and events.

Easily the highlight of the network's social activities to date has been the inaugural Hindmarsh Landcare Network Golf Challenge.

Eight teams contested the mighty challenge at Baker golf course, 30 kilometres north of Nhill.

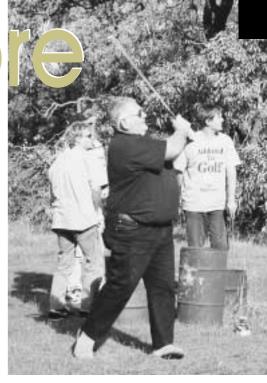
The course was in excellent condition and the day was well organised and catered for by local club members.

The challenge took place over nine holes and was followed by a nine-hole grudge match after lunch for teams to settle the morning's score.

Home ground advantage didn't seem to help the local team and not even the NRE and Greening Australia teams, who went to the trouble of recruiting players from outside the district, could stop the might of the Nhill South Landcare Group. The Greening Australia team did take a prize home – for the highest score of the day.

The day clearly belonged to the players from Nhill South who made the title of Hindmarsh Landcare Network Golf Champions their own, and took home both prizes in nearest the pin competitions.

The foundations have been laid for what is sure to become a fabulous sporting tradition and a highlight on the Wimmera's Landcare calendar.



The mayor of Hindmarsh Shire, Darryl Argall, tries his luck in the nearest the pin competition.

Some of us have already commenced training for the next challenge – although Nhill South's title might be quite safe – the training doesn't seem to be helping at all.

For more information on the Hindmarsh Landcare Network or the network's golf challenge contact Greg Barber on (03) 5391 1811.





Landcare 2000 lives on electronically

As we go to press, planning for the International Landcare 2000 Conference – to be held in Melbourne between 2-5 March – is proceeding furiously. Organisers are expecting an estimated 1000 delegates from Australia and overseas to attend the conference which has the theme 'Changing Landscapes – Shaping Futures'.

Delegates and others will be able to continue debating issues raised at Landcare 2000 through the website of Landcare Australia Limited. Key issues will be discussed on-line via the site's 'Soapbox', which allows for threaded discussions from anyone with access to the Internet and email.

Organisers hope that post-conference on-line discussions will allow delegates and others to continue exploration of the opportunities and challenges that face Landcare in the 21st century.

To participate in discussion, go to www.landcareaustralia.com.au

Ethnic Extension Network

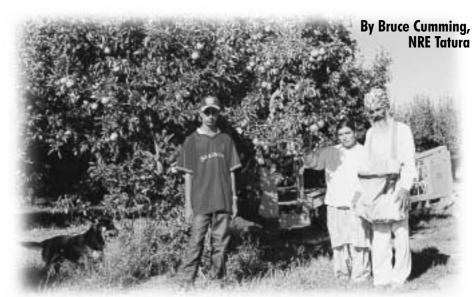
Environmental and agricultural field workers from state, local government and migrant resource centres have joined to form an Ethnic Extension Network. The network will enable people working with multicultural communities to network electronically and provide an open forum for the sharing of ideas and knowledge.

Although in an embryonic form, the network focuses on communication issues, including the forming of partnerships with multicultural communities.

The networkers have a common interest in Landcare, the environment, sustainability and resource management. Many people working with these issues feel remote due to geography or the specialised nature of their work. The network may help break down some of this sense of remoteness and provide some new contacts and communication opportunities.

The network is currently only an electronic one, but in the future it may become broader to meet the needs of network participants. If you are interested in joining the network please contact Bruce Cumming, preferably by email, at Bruce.Cumming@nre.vic.gov.au or call him on (03) 5833 5222.

Multicultural Landcare



 $(R\text{-}L)\ Jaswand,\ Jasminder\ and\ Jaggi\ Singh\ are\ working\ on\ a\ whole\ farm\ plan\ for\ their\ or chard.$

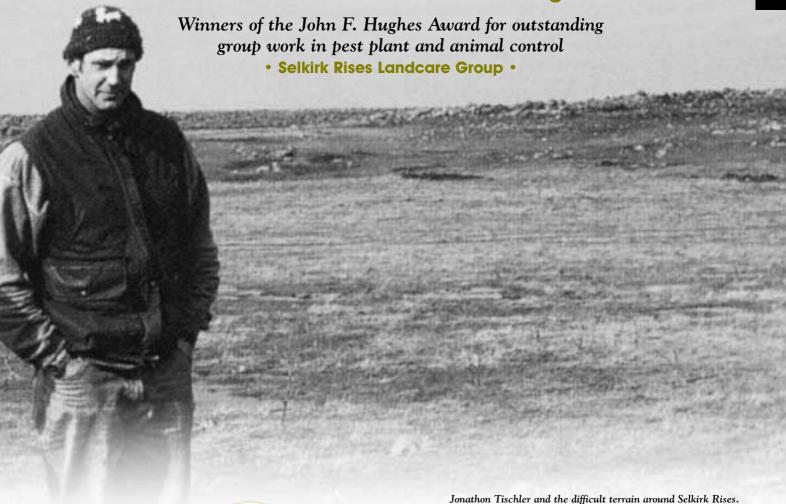
Victoria is one of Australia's most culturally diverse states with nearly half of the population either born overseas or having at least one parent born overseas. Rural and regional Victoria has a large population of people with a non-English speaking background.

The National Landcare Program is funding a cultural diversity project in northern Victoria which is being conducted by NRE at Tatura. The project has the dual themes of demographics and accessibility. It aims to uncover the diversity which exists within the regional farming community.

Project Officer Lorraine Mathieson is analysing data to get a snapshot of the demographics of the Shepparton Irrigation Region and the north-east. While there was anecdotal evidence of the communities within these regions, more detail was required. The project has shown that there are many language, nationality and cultural and religious groupings across the region, often with local concentrations.

Lorraine is also examining the accessibility of the products and services provided for Landcare and associated programs. This will help in identifying what are the most crucial communication issues for multicultural land managers.

1999 Victorian Landcare & Farm Management Awards



The Selkirk Rises (20,000 hectares of stony rises in south-west Victoria) are perfect rabbit country. The area has a long history of infestation. It was not uncommon for rabbit counts to reach plague proportions of over 500 per kilometre transect count.

In late 1995, the Selkirk Rises Landcare Group made a decision to launch a concentrated attack on rabbits and developed a Rabbit Action Plan. Past programs had failed mainly because they lacked co-ordination and relied totally on baiting.

In early 1996, the group launched its initial attack. They were assisted by the unexpected early release of the Rabbit Calicivirus Disease (RCD). A mix of aerial baiting, mechanical broadcast and trail baiting, combined with RCD, provided the initial knockdown.

Funding from the State Government's Rabbit Buster Program helped the group employ bulldozers and excavators to destroy the warrens. Hunters were used to eliminate remaining surface rabbits and any reopening in the ripped areas was fumigated.

The following year, only minimum baiting was needed to remove isolated pockets of heavy infestations. An extensive warren destruction program was again carried out with follow-up fumigations at reopenings.

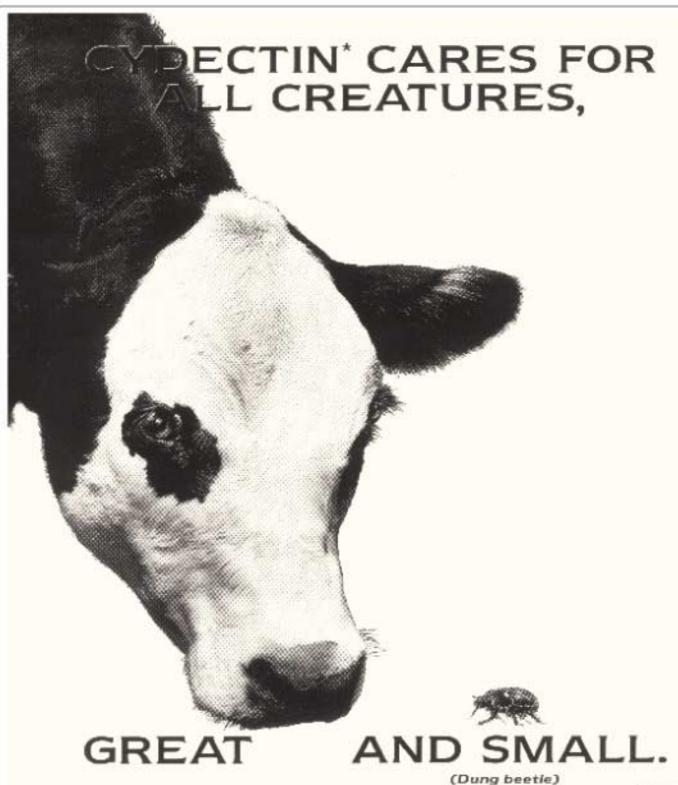
At this time, the group was selected as one of 15 nominated regional rabbit monitoring sites across the State for RCD.

Year three of the plan saw 21 kilometres of trail baiting targeting low priority areas. The Rabbit Action Plan was also updated for the next three years.

Jonathon Tischler, the group's secretary, says the program has been very successful.

"Rabbit numbers have declined to three per kilometre transect count. Because of this, landholders have increased their stocking rates from between 25-30% and reduced the need to provide supplementary feed to stock in dry seasons. The acreage of land used for cropping has also increased and landholders are now establishing shelterbelts and commercial blue gum plantations."

The group has proven that, through a planned and co-ordinated program, long-term gains in rabbit control are achievable.



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Catchment management in Victoria:

Message from NRE



By Peter Sutherland, Executive Director, CMSA Division, NRE

Second Generation Landcare

The Minister for Environment and Conservation, Sherryl Garbutt, recently announced several new initiatives to assist Victoria's Landcare movement as it grows and develops.

Second generation Landcare grants for 2000/01 will support an integrated approach to land and water management including native vegetation retention and revegetation, as well as weed and rabbit control.

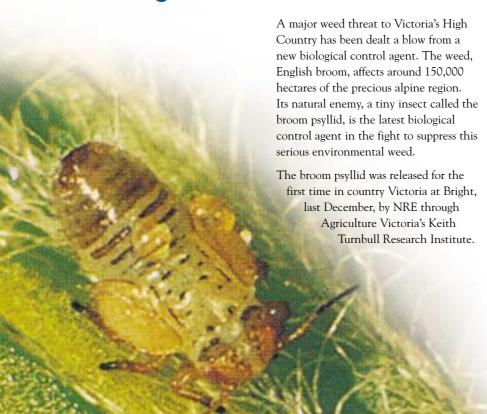
Landcare groups will have greater flexibility to seek support for larger, long-term projects under the scheme. Funding is available for works and facilitators to provide project management or co-ordination of on-ground works. Projects that generate multiple benefits will be given a high priority.

Joint funding has also been made available from the State and Commonwealth Governments under the Natural Heritage Trust to build and strengthen Landcare groups and networks in each catchment region.

The Minister also announced the appointment of a Statewide Landcare Co-ordinator to work with groups and networks and the formation of the Heather Mitchell Memorial Fellowship.

The Fellowship has been established in memory of Heather Mitchell, one of Landcare's founders, to help develop the next generation of Landcare leaders.

English broom meets its natural enemy



The release and distribution of this new agent is part of the Victorian Government's commitment to implementing more cost-effective approaches to weed management on public land.

Broom has become an aggressive invader of a broad range of habitats and a serious environmental weed. The psyllids reduce the vigour and seeding capacity of broom by sucking the sap and damaging cells in the actively growing parts of the plant. Broom bushes with high psyllid populations are stunted and have reduced shoot growth.

Catchment Management and Sustainable Agriculture (CMSA) is the Division of the Department of Natural Resources and Environment responsible for maximising the environmental, economic and social benefits of integrated catchment management and sustainable development of resource based industries.

NRE: Caring for your Catchment

1999 Victorian Landcare & Farm

Minister congratulates winners

The winners of the 1999 Landcare and Farm Management Awards were announced by the Minister for Environment and Conservation, Sherryl Garbutt, at a ceremony in the gardens of Parliament House last November.

The Minister said the awards recognised the best models of Landcare work in Victoria.

"Winners, as well as finalists, are to be congratulated and thanked for their commitment to improving our land and water resources," Minister Garbutt said.

"Their work is inspirational."

The Minister also congratulated all those who had submitted entries in the awards.

The Victorian awards, run by the Victorian Catchment Management Council in partnership with the Landcare Foundation Victoria with support from the Department of Natural Resources and Environment, attracted over 200 entries in 25 categories.





Winners of the Pivot Landcare Hanslow Cup Glenelg-Hopkins Region

Bill and Sandra Day, Willaura

Bill Day attributes much of the credit for his well-run farm to his father's war with rabbits. Bill's father was a soldier settler who took his agreement to keep the land vermin-free very seriously. Through his constant fence checking and use of dogs he cleared the farm of the last rabbit in 1959.

Bill has stayed vigilant. "Keeping on top of them is the thing. I check the fences regularly and put traps out as soon as I see any activity."

Having a largely rabbit-free farm has helped the Days' move into diversification. The property was once mainly wool producing but now prime lambs and cropping play an increasing role. To sustain the change in production an extensive pasture renovation program has been undertaken. Much of the property is steep hill country with a high erosion risk. Lucerne has been incorporated into the pasture mix with perennial grasses and clovers. The perennial pastures have helped to reduce recharge and protect the soils.

The Days have established trial plots of trees for agroforestry. They have also introduced a wind-powered reticulated water system, a laneway system and extensive native windbreaks.

Current activities include fencing for land classes and working with neighbouring farms on a major wildlife corridor system.



Bill and Christopher Day near a shelterbelt that protects a stock containment area.

Bill says the farm will stay in the family for the future and having something good to pass on is a motivator. "We have a keen son and I'd like the farm to be in better shape for him than it was for me."

Management Awards

Winners of the Bendigo Bank Small Rural Property Award • Robert Muirhead, Kilmore •

A city slicker all his life, Robert Muirhead swapped a career in the oil industry for a small property at Kilmore and is very happy with the decision.

Robert bought his 23 hectare property at Kilmore in December 1996. At that time the soil was strongly acidic, there were four active gully and sheet erosion sites, weeds were common and rabbits were rampant. In the last three years, Robert has turned the place around, greatly improving both the look of the farm and its productivity.

Robert says his experience shows what can be done on a small farm in a short time and at a reasonable cost.

"I spent about six months floundering about talking to anyone who had any ideas to offer. Then I put my plan into place."

Robert decided to work on the simple, basic things first. He tackled the pasture problems by applying lime and super. He put in new fences and rotated stock between paddocks. He fenced the erosion sites and fixed the gully erosion by contouring, laying geotextile cloth and rock placement.

Trees have been a big part of the plan. Over 700 local trees have been planted on the sheet erosion site. The garden, road and entrance have been landscaped and planted with low water use species that attract birds. All of the plantings are heavily mulched and drip irrigated.

Even though the property is small, Robert was keen to reduce any negative impact it was having on the local catchment. He was concerned stormwater runoff from tanks and roads went to waste and contributed to local erosion. By paving the house driveway, resurfacing the entry road and adding gutters.

water runoff is now directed to a pond where it is reused on the property.

Robert says most of the improvement costs will be recovered in terms of the higher capital value of the farm and increased stocking rates.

"The improved look of the place and the increased diversity of wildlife are harder to quantify, but they are still real benefits."

Robert Muirhead on his greatly improved small property near Kilmore.





Winners of the Pivot Landcare Hanslow Cup West Gippsland Region

• Bernie and Lorraine Hotschke, Fish Creek •

A serious tractor accident hasn't prevented Bernie Holtschke from planting over 5000 trees and being named the 1999 'Dairy Farmer of the Year'.

The Holtschke farm produces over 90,000 kilograms of butterfat off less than 600 acres. Through all Bernie's fencing and tree planting, the farm has an extensive network of shade and shelter sites.

Each year from 1993 until 1995, Bernie put aside 10 acres of river frontage and cliffs for fencing and planting. Native trees were planted along two kilometres of frontage to help prevent soil erosion and attract local wildlife.

In November 1995, Bernie rolled his tractor on a slick of morning dew when spreading super on steep land. He was seriously injured but, through a great deal of determination, has made an excellent recovery.

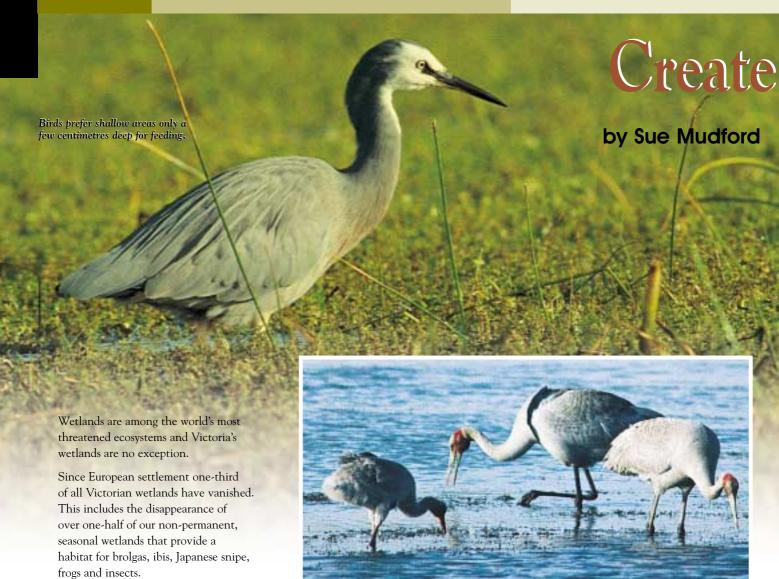
After his rehabilitation, Bernie decided to fence off a steep cliff site and plant 5000 trees. The trees were planted in 1998 and are growing well.

He has also been fencing out areas of natural bush in 'lots' to encourage regeneration. Much of this work has been done along the Rowdy Creek which runs through the farm.

Lorraine Holtschke says Bernie is totally committed to Landcare. "He works so hard and so consistently he really deserves the results."



Lorraine and Bernie Hotschke with their top-producing dairy cows.



Brolgas prefer wetlands that are open, flat, shallow and seasonal.

Historically, wetlands have been under-valued and seen as wastelands to be filled or drained. They have been taken over or replaced by pasture, farmland and water storage, for housing and industrial estates.

In Victoria, more than 100 species of native animals depend on wetlands for their survival. Victoria's wetlands also have global significance as they nurture at least 50 species of migratory water birds from as far away as China and Siberia.

How to provide a home for these animals and birds

Site selection

The area should have a water source and ideally will have previously been a wetland. This is often indicated by a moist patch of soil, vegetation such as rushes, melaleucas and bulrushes or an area where water collects. If the area was not a natural wetland, consideration should be given to the soil and whether it can effectively seal the bottom and wall of the pondage area.

While clay is a better sealant than coarser textured soils, not all clays have good sealing properties.

Consider siting the wetland so that it can be seen from your house or driveway so you can enjoy the view. You can further increase the family's interest by adding a bird hide so everyone can observe the wildlife with minimal disturbance.

A well-sited wetland will also help improve the aesthetics of your property and hence increase its market value.

Type of wetland

There are two main types of wetlands – permanent and seasonal.

Consider the value of ephemeral or seasonal wetlands. Often these can be far more productive and offer more diversity than permanent pondages.

The slope of the wetland area should not be too great as this increases the difficulty in building a pondage that will provide the correct balance of water depth which will provide a range of habitats within shallow and deeper areas. For example, birds such as brolgas prefer shallow areas only a few centimetres deep for feeding.

Proximity to other wetlands

Wherever possible, try and locate new wetlands near existing ones. Water birds can then move easily between them as conditions alter or, if disturbed, a suitable refuge area is close by.

your own wetland

Group

Artificial wetlands are more readily colonised by aquatic plants and animals if located adjacent to an existing site.

Islands

Earthen islands can be constructed in one of two ways: cut off a spur of land that juts into the wetland; or bulldoze a pile of earth into an island. Gentle sloping sides are recommended [at a 1:5 slope], reducing the risk of erosion.

The gentle slope also allows waterbirds to walk out of shallow water onto an island and increases the shallow water feeding area. The habitat for plants is also enhanced.

To protect against wave action and inundation, earthen islands should extend at least half a metre above the maximum water level and be planted with appropriate species.

Mud islands, which provide loafing sites for waterfowl, need only to be occasionally awash.

Small islands within a wetland can be desirable but many birds, including the brolga, tend to prefer wetlands that are open, flat, shallow and seasonal, typical of many of those in south-west Victoria.

Islands do however provide a secure roosting and nesting place where birds are safe from cats and foxes. They help increase the length of shoreline available and increase the variety of habitat for birds and aquatic species.

Wetland plants

There are a number of reasons for establishing dryland vegetation around the perimeter. Plants act as a buffer between the wetland and farm areas, helping to reduce nutrient inputs and potentially the ocurrence of blue-green algae. Indigenous plants should be used as they will encourage the fauna in your area to utilise the wetland. These plants are an important source of organic material and enhance biodiversity.

Many aquatic plants will reappear naturally around the edges, whilst others will be introduced by birds and wind. On the earthen islands, a covering of topsoil will aid vegetation establishment.

Native grasses, reeds and other plants can be hand-seeded or planted.

Loafing and perching sites

Consider dragging logs and 'planting' dead trees into the wetland area to serve as perches and to provide protection from predators. This has been shown to work very effectively on a farm wetland at Hawkesdale where the owners have also protected the area with a conservation covenant.

Stock access

Uncontrolled grazing has a big influence on the establishment of a wetland. Exclusion of stock, especially in winter and spring will enable the plants to seed and the birds to nest.



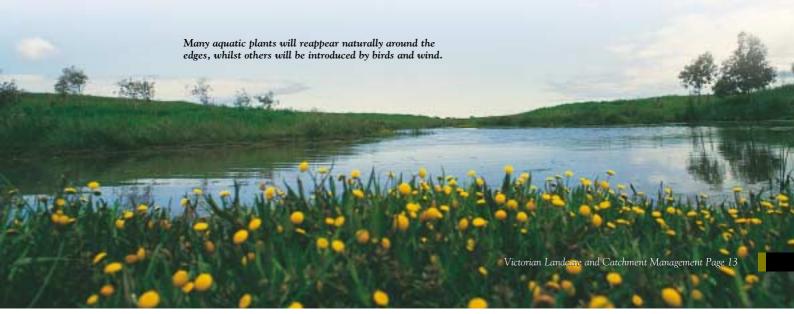
Islands provide a secure roosting and nesting place where birds are safe from cats and foxes.

Depending on the occurrence of weedy species and the need for stock water, grazing may occur in late summer and autumn. Stock access can be controlled either by fencing the wetland or by managing access to paddocks where they occur.

So – good luck and enjoy your wetland and the benefits that it brings. You will become part of a growing band of landowners who are helping to recreate habitat and conserve our wildlife.

The Trust for Nature has regional coordinators throughout the State who will help with information on fencing grants, monitoring of flora and fauna and also on the permanent protection of your wetland with a voluntary covenant agreement.

If you wish to know more about wetland conservation and management, please contact Sue at Trust for Nature Victoria on (03) 55995223 or email suem@tfn.org.au or visit the Trust for Nature web page – www.tfn.org.au



From small seeds mighty

In the last edition, we looked at how to collect native tree seed. This time we will look into how to germinate the seed you collected and propagate trees and shrubs for your farm in time for planting over the winter-spring period.

There are many ways for germinating and propagating seedlings, many different potting mixes and lots of types of pots. This is a very basic explanation of seedling propagation aimed at getting you started.

Stage 1: The germination process

Trays

To germinate your seed, you will need germinating trays. The trays which hold together vegetable seedling punnets at your local nursery or even the small punnets themselves are excellent for this task.



Propagating medium

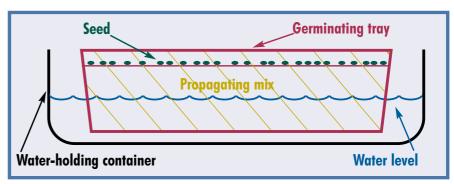
There are various sand-based propagating mixes available, however, fine potting mix can also do the job.

If using a potting mix, remove any of the larger particles so that you have a mix with even particles less than six millimetres. Straight topsoil should be avoided as chances are it will contain weed seeds and potential diseases that could interfere with the germination process or compete with the young seedlings.

Fill the propagating tray with the fine mix, give it a good watering and level off the top before sowing the seed.

Sowing the seed

A useful method of sowing the finer seed such as eucalypt or melaleuca seed evenly is to use a salt or pepper shaker. Smaller seeds should be patted down or lightly pressed and larger seeds covered or pushed into the growing mix.



bog method

The trays should be watered very carefully after sowing (especially the fine seed trays) to avoid the seed being washed out.

Watering

Keeping the seed moist and warm is vital to help the germination process. A very successful method for maintaining moisture is known as the 'bog method'.

This involves placing the germinating tray in a shallow water bath with a water level half way up the side of the germinating tray.

Warmth

Keep the trays warm by placing them in a plastic bag, or under a sheet of glass. Filtered light should be sufficient to keep them warm, as direct sunlight can burn off the small seedlings.

With all small seedlings, fungus can be a problem, especially if you use a plastic bag, so try and ensure that there is adequate air flow around the seedlings by having holes in the bag or at least space for air to circulate.

Using the bog method, snails and slugs can't get to the seedlings, but still be vigilant.

Stage 2: Pricking out



Once the seedlings have germinated and grown to a height of two to three centimetres, they are ready to be transferred into the growing tube. This process is called 'pricking out'.

In this example, we will concentrate on standard forestry tubes, although there are a few other tube types which are also being used and the process is very similar.

With any types of tubes try and use tubes that have ribs or grooves inside that help train the roots downwards.

Potting medium

We will use a standard potting mix, preferably low in phosphorous, but with some slow-release fertiliser suitable for native plants. (Ask your local nursery staff for help in picking one.)

Wet the potting mix before starting – as this reduces dust – and also ensures the material at the bottom of the tube is damp prior to transferring the seedling from the germination tray.

Pricking out

There are a couple of ways of pricking out seedlings, but we will concentrate on one tried and true method that minimises rooting problems.

Fill the forestry tubes with the wet/damp potting mix to a bit below half full.

Gently take hold of a seedling by the stem and, using a thin pointed object such as a knitting needle, nail or kitchen skewer, dig it out of the germination tray, being very careful not to damage its roots.

trees grow...

But how do I do it?

By Paul Crock



Hold the seedling centrally over the half-filled forestry tube, dangling the roots freely into the tube. Making sure the roots are just touching the potting mix in the bottom of the tube and are not curled up or bent sideways, with your other hand, fill the rest of the tube with potting mix, gently covering up the roots. Tap the tube on the bench to help the potting mix settle around the roots, gently press the potting mix in, adding more if needed and give the tube a good gentle watering.



Holding the tubes

Foam fruit boxes from your local fruit shop or shopping centre fruiterer are excellent for holding forestry tubes. Each box holds 48 tubes.



Once you have filled the foam box, keep the young trees in a sheltered position in broken light and somewhere where snails, slugs and rabbits can't get them. One juicy fat slug can eat your whole forest in one night – so be vigilant on snails and slugs.

Maturing your seedlings

After they have grown to a height of about ten centimetres high, gradually move them out of the sheltered area to start the 'hardening off'. This means more light, sun and weather.



When the seedlings are about 15-20 centimetres high, they are ready to plant out.

There are plenty of other growing methods for native trees which use smaller tubes, air pruning of roots and more that we have not explored here. If you are after more information about propagating trees, there are many books and pamphlets available, or contact Greening Australia on (03) 9457 3024 or your local native plant nursery.



Fixing-up the Fairyknowe



In October of 1993, a torrential cloudburst dumped 125millimetres of rain in a quarter of an hour on the Fairyknowe Creek catchment in the Mitta Valley. The downpour, onto ground well-saturated from a wet winter, gouged the creek and scoured the hillsides causing many landslips. Tonnes of silt were washed into the raging creek. A small cottage was swept off its foundations and fences, creek crossings and bridges were taken out.

"Since that downpour, the creek has never really stabilised," says Maree Paton, who, with husband Gordon, runs a dairy and beef farm at the lower end of the catchment.

Their farm has become a 'dumping ground' for silt carried by the creek and each year the Patons have the creek dredged to clear a watercourse. Maree says reeds and rushes have taken over what



was once productive country and the ground watertable has risen considerably. Further up the catchment the gullies coming off the creek are getting deeper and the creek bank continues to erode.

"At the moment the limited vegetative cover is speeding up the ongoing erosion," says waterway engineer Chris Dwyer, from ID&A, waterway consultants to the North East Catchment Management Authority.

"A flood like this area had, in the early 1990s, set a pattern."

A joint project between the North East Catchment Management Authority (as part of the implementation of the Upper North East Water Quality Strategy), the Mitta Valley Landcare Group and the landholders in the Fairyknowe Creek catchment is now underway to try and do something about the problem.

The aim is to slow the creek down to a more natural pattern and to stabilise its bank and gullies, with strategically placed

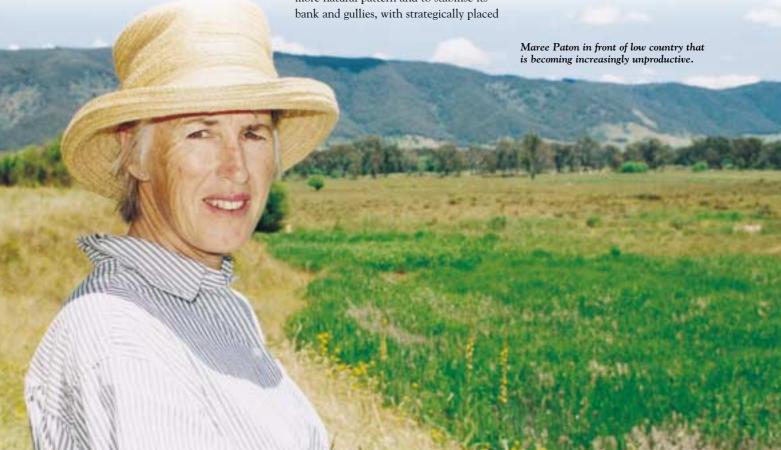
By Margrit Beemster

rock work, fencing and revegetation. Already, with funding from the Natural Heritage Trust, landholders have fenced out two kilometres of feeder streams and are planning to do more fencing and revegetation work along the creek over the next two years.

"We have done a series of stream surveys and used aerial photographs to determine the extent of the damage," says Chris, who is liasing with the landholders to determine where the works are going and to identify where fencing and revegetation is needed.

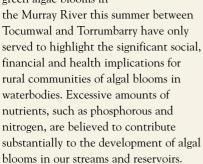
"Our next step is to identify what are the high priority, high risk areas which need immediate attention. Then it's a matter of working out a design for the works with the budget available."

For information on the Upper North East Water Quality Strategy contact Veronica Lanigan, Water Quality Officer on (02) 6055 6260.



Avoca Nutrient Management Strategy development

The presence of bluegreen algae blooms in



Students at the Natte Yallock Primary School in central Victoria were recently given a demonstration of computer modelling of nutrients in the Avoca catchment. Students at the school have an extremely good understanding of water quality issues and this inspired the North Central CMA to launch the model at the school.

The computer simulation model demonstrates the impacts of nutrients on our waterways and enables trialling of different management options. It is being used in the development of the Avoca catchment's first Nutrient Management Strategy.

This strategy is a project of the community-based Avoca Implementation Committee and the North Central CMA aimed at reducing stream nutrient levels, blue-green algae blooms and improving overall stream health. The nutrient model is the key to involving the community in decision-making and the testing of management options that contain knowledge of local conditions to achieve realistic outcomes.

North Central CMA (03) 5448 7124



(L-R)
Students from
Natte Yallock
Primary School
looking at the
program with
CMA staff.
Courtesy of
Maryborough
District
Advertiser.

Integrating works in the north-east

A three-year program to stabilise sections of the Johnstone and Cottontree creeks in the Upper Murray is two-thirds complete, a year ahead of schedule and under budget, thanks to a joint effort by Landcare and the North East CMA.

The Wises Creek/Talgarno Landcare
Group gained NHT funding to fence
and revegetate riparian areas of the
Johnstone Creek, which feeds into
Lake Hume. With additional assistance
from the North East CMA, Greenfleet and
the Landmate programs, around
1.5 kilometres of the Johnstone
Creek and 0.5 kilometres of
Cottontree Creek have been
protected by landholders.

The CMA stabilised active erosion heads with rock chutes, landholders erected two kilometres of fencing,

> Anthony Nichol and Neil Paulet inspect a section of the Johnstone Creek works. Photo courtesy of The Border Mail.

and around 10,000 trees and shrubs supplied by Green*fleet* and the CMA were planted by Landmate crews, landholders and the CMA.

The combined activity linking Landcare and CMA works has meant that the Landcare group can now protect greater areas of the two creeks than originally planned. This project will help to provide more stable streams feeding better quality water into Lake Hume and increased habitat in the catchments.

North East CMA (02) 6055 6133



Watermark launched in East Gippsland

There has been an exciting development in East Gippsland that will have a positive effect on the rural and urban communities wanting to improve the condition of the Gippsland Lakes.

Watermark is a non-political community trust which has been established to support community action aimed at restoring the long-term health and viability of the Gippsland Lakes.

An initiative of the Gippsland Coastal Board, Watermark will work in cooperation with existing groups including Landcare, CMAs, the Coastal Board, Waterwatch and others, to develop actions which address very important factors affecting the Gippsland Lakes such as urban stormwater, foreshore regeneration, nutrient inputs and catchment conditions.

Watermark will provide the ideal conduit for corporations and philanthropic organisations to channel funds into action on this most precious resource. Chair of the East
Gippsland CMA and
the Gippsland Coastal Board,
Duncan Malcolm, said: "Watermark
is an important step forward in
addressing catchment management
issues which affect the Gippsland
Lakes. The degradation of the
Gippsland Lakes is tied up in the
catchment and we need to address
all of the issues at their source."

Rural and urban Landcare groups stand to benefit substantially from the establishment of Watermark, through either greater access to funding opportunities, or assistance in setting local and regional priorities.

Membership of Watermark is open to all individuals and groups.

East Gippsland CMA (03) 5153 0462





Planning to action in Port Phillip



and Westernport

Catchment Action Programs (CAPs) for the Yarra, Dandenong, Werribee, Maribyrnong and Westernport were completed during 1999. The launch of these documents is a major step forward and the CALP Board's five Catchment Implementation Committees are now facing the next challenging step of implementation.

But how does a committee with limited time and resources implement a program with up to 127 actions? A solution being trialled is to address one major issue and associated actions per meeting in a focused session. The keys to success are significant pre-planning and inviting all relevant stakeholders to participate in the focus session.

For example, the Dandenong committee recently focused on sediment control on construction sites. In addition to the many local committee members, various stakeholders and specialists were involved including the Department of Infrastructure, the Building Control Commission and representatives of the construction industry.

An exciting outcome of this session has been further discussion with the Building Control Commission regarding the inclusion of sediment management within the existing control and monitoring mechanisms. Should this be developed into a successful model, it would have important benefits across the State.

The concept of focused sessions is already providing important outcomes for this region and promises to be an efficient and effective technique to gain improved co-ordination of catchment management programs.

CaLP Board (03) 9785 0187

Best kept secret open for all



After four years of discussion and planning the Goulburn Broken CMA's Yea River Wetlands project was officially opened last October.

Official guests and local residents, together with members of interested recreational and environment groups, gathered at the wetlands to witness the opening and enjoy a celebratory barbecue lunch.

The site is situated on some 35 acres of Crown land on the Yea River behind Cummins Reserve and is managed by the Shire of Murrindindi. The wetlands comprise a series of billabongs and an anabranch of the Yea River formed through channel changes in the river many years ago, before white settlement.

Alan Reid, President of the Gould League, officially opened the Wetlands and confessed to being obsessed with them.

Willow management work to open up the waterway was undertaken by the GBCMA, which also managed the project, installing walking paths, pedestrian bridges, stiles and signage identifying key features of specific significance.

The Wetlands provides a home to a variety of bird life, native flora and aquatic species, with copious indigenous native vegetation species. It offers an enormously bio-diverse environment and invaluable information for interest groups and students.

Goulburn Broken CMA (03) 5822 2288



Alan Reid (front right) takes local residents and guests on a walk around the Yea River Wetlands project. Photo courtesy of Yea Chronicle.

Discovery in Thompsons Creek



In September 1999, members of the Thompsons Creek Catchment Group and NRE's Flora and Fauna branch discovered a very important native fish in the Thompsons Creek. A single specimen of the Yarra Pygmy Perch was discovered, whilst randomly sampling a site along the creek.

The Yarra Pygmy Perch is known to have a broad distribution, ranging from Frankston over to the South Australian border. Whilst the species has a broad distribution, most records are of less than ten individual fish. The species is listed under the Flora and Fauna Guarantee Act (1988) as 'potentially threatened.'

Another Yarra Pygmy Perch was recently discovered in the Waurn Ponds Creek, a relatively degraded urban stream. The findings have excited fish biologists from the Flora and Fauna branch of NRE who are anticipating future studies to identify if viable populations of Yarra Pygmy Perch exist in these waterways.

The habitats of many native fish species have been heavily degraded in Victoria, isolating populations to small pockets of streams. Degraded waterways can still be important habitat areas for small populations of rare species and we should look out for and protect the hidden values of these streams.

Corangamite CMA (03) 5232 9100

A united Landcare effort



The \$1.7 million Wellington Catchment Care project was launched recently.

The project covers Gippsland from Warragul through to the Gippsland Lakes and incorporates the Wellington Greenprint Landcare Program, launched last April by Federal Environment Minister Senator Robert Hill.

According to Wellington Catchment Care Board Chair, Brian Frawley, Wellington Catchment Care is a large-scale Landcare project which has been established to implement natural resource management works across the Lake Wellington catchment. Wellington Catchment Care involves 29 Landcare groups and is a joint initiative between the community, NRE, the Federal Government, the West Gippsland CMA, Greening Australia and Loy Yang B owner. Edison Mission Energy.

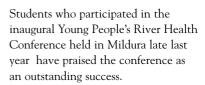
There are four components to the project: biodiversity, erosion control, waterways and salinity. Brian Frawley explained that while the project had received substantial financial support from the Government and Edison Mission Energy, it was community-driven and input from Landcare groups was "of absolute importance".

West Gippsland CMA (03) 5175 7800

Children voice their approval for environment

Catchment

Management



After three days of making friends with other students from across Australia, learning from each other about the environment and listening to some of Australia's leading environment spokespersons, the conference concluded with a ceremony at the Old Mildura Homestead.

More than 150 students and teachers from across Australia attended the conference, organised by the Mallee CMA in conjunction with Mildura West Primary School. Other supporters included AFFA, the MDBC, NRE and the Sunraysia Rural Water Authority, as well as many local sponsors.

Jackson Robbins, a student at Mildura West Primary School, said: "I took away from the conference a number of messages including not to wash the car on the driveway because chemicals can find their way into drains and then into the river."

"I also learnt that kids can make a difference," said Jackson.

The conference was opened by Ian Kiernan, chairman and founder of Clean Up Australia. The conference dinner was prepared by Mildura chef, Stefano de Pieri, who spoke to the conference delegates about his passion for rivers and the life they give to communities like Mildura.

Mallee CMA (03) 5022 4373



Kids presenting at the Echidna Workshop were mentored by Dr Peggy Rismiller.

CMA approves projects worth \$1 million



The Glenelg-Hopkins CMA has approved projects worth \$1,171,762 for improving catchment health in the Glenelg-Hopkins region.

CMA Chair, David Koch, said the 201 projects will be implemented on-ground this year. Interest in the grants has grown from 177 applications in 1998/99 to 285 for the 1999/2000 funding



A variety of catchment management projects have been approved to landholders, industry, shires and Landcare groups, including streamside protection and enhancement, in-stream works, establishing filter strips, wetland enhancement and protection and demonstration sites of best management practice for catchment management. The projects address priority issues in the region such as salinity control, pest plants and waterway health.

Since last year's applications have been approved 220 kilometres of protective fencing have been constructed, 182,263 seedlings established and more than 100 hectares of wetlands protected or enhanced.

With funding from last year's program, Bev Byron of Allansford successfully addressed degradation issues along the frontage of the Hopkins River. By September 1999, Bev and her husband had already planted 1100 trees.

"Thanks to the CMA we have the opportunity to revegetate and improve the health of the river," she said.

Glenelg-Hopkins CMA (03) 5571 2526

An Allansford property along Hopkins River where works have been completed from last year's funding. This area used to be infested with gorse.

ON THE SHELF



Feral Future: The untold story of Australia's exotic invaders

Biologist, writer and photographer Tim Low has followed on from his award-winning *Bush Tucker* book with a thoughtful discussion on Australia's exotic pests.

Low goes right back to the ancients to root out the origins of the ferals.

"Matthew (13:36) recorded Christ's Parable of the Weeds, in which Jesus says: 'Just as the weeds are gathered and burned with fire, so it will be at the close of the age'."

Low looks at the careless ways we have allowed many dangerous species into the country and our various, often misplaced, attempts to develop control strategies for them. He proposes a solution to the feral mess – it starts with the individual. Low says we need to throw off the role of helplessness and embrace some simple principles of eco-friendly living.

Feral Future is a beautifully written and carefully researched book. It is full of interesting facts and incidents and alive with the passion the author holds for his subject.

Feral Future: The untold story of Australia's exotic invaders is available from the NRE Information Centre on (03) 9637 8080 for \$24.95.

Grow Your Own Bushfoods

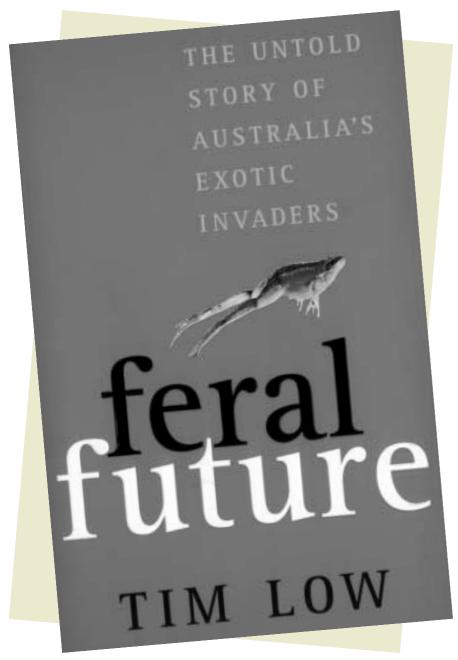
Grow Your Own Bushfoods, by Keith and Irene Smith, is a first-ever comprehensive and practical guide to harvesting more than 140 kinds of Australian bushfoods on your own property.

The book provides detailed plant profiles of the characteristics and ideal growing conditions for each species. In addition there are suggestions on the best ways to prepare and eat your bushfoods – use them as flavourings in jams, muffins or sauces or make your own bush teas and sweet drinks.

A bushfoods directory is also included which lists suppliers of catalogues, seeds and seedlings as well as native plant gardens open for inspection.

Written with an emphasis on using natural growing methods, *Grow Your Own Bushfoods* is a great guide for people keen to learn about bushfoods while at the same time preserving our endangered plant species.

Grow Your Own Bushfoods is available from the NRE Information Centre on (03) 9637 8080 for \$19.95.



A thriving environment centre for Kananook Primary

Students from Kananook Primary School at Seaford are branching out from their school grounds and improving the environment of their local foreshore and creek. In 1998 the school got together with the Kananook Creek Association and applied for a grant to improve and revegetate the Seaford foreshore and the Kananook Creek environs.

The application was successful and the school went ahead with stage one building an Environment Centre at the school. The centre has a propagation igloo, potting-up area, storage shed, compost bin and timed watering system.

The Environment Centre was in operation by August last year and has been used with great enthusiasm by students. They have established a small herb and vegetable garden using pot plantings of vegetable and flower seeds and cuttings.

The Kananook Creek Association provided cuttings and seeds of plants suitable for revegetating the creek and foreshore reserve. The students potted-up the plants and have cared for them as they've grown.

Kananook Primary School teacher, Betty Stampton, says the project has been driven by parents and the Environment Sub-Committee of the School Council.

"We had some wasted space behind our tennis courts and the parents felt this was a great way to use it. There's a double benefit – it improves the immediate environment of our school grounds and allows us to get involved in improving the

Stage two of the project is now underway. A group of grade six students planted out the first lot of plants last December. More planting is planned for this year.

Victorian Landcare and Catchment Management Page 21

(L-R) Adiba Ahmad, Samantha Allen, Nancy Kelly, Vicky Pili and Hayley broader environment." Marks taking care of the lemon tree in their school Environment Centre they have big plans for lemonade!



Hayley Marks enjoys the thriving herb garden.

Salt-tolerant grass 'blowing in the wind'



An endangered Victorian known as Adamson's blown-grass, (Agrostis adamsonii) has been found growing well in saline depressions in the Glenthompson, Skipton and the Melville Forest areas.

NRE Flora and Fauna Manager, Yvonne Ingeme, said the species was thought to be extinct until its rediscovery in 1987 and has since been identified in over 50 sites from west of Geelong to north-east of Hamilton.

Often called 'shivery grass' by farmers, Adamson's blown-grass is not as invasive as some other members of the *Agrostis* species. It is a short-term perennial and forms tussocks up to 20 centimetres in diameter.

"The grass has great potential as a native alternative to Tall Wheat Grass where farmers do not intend to graze the saline area," Yvonne said.

> "The grass does not appear to tolerate grazing, so in saline areas that have been fenced off it seems to be providing good vegetative cover to prevent erosion," she said.

For more information contact Yvonne at the Pastoral and Veterinary Research Institute, Hamilton, on (03) 5573 0900.



Yvonne Ingeme identifies Adamson's blown-grass.

Infrastructure critical for tackling dryland salinity

The National Dryland Salinity R&D Program has commissioned The Virtual Consulting Group in Albury to help them identify new policy and institutional arrangements that will improve our ability to deal with dryland salinity.

The Group's principal, Greg Hayes, says a fundamental problem is that present institutional arrangements do not encourage landholders to change landuse practices.

"Often they see that others will enjoy the benefits while the landholder will be faced with new costs."

He suggests that new institutions are needed to provide a basis for joint investment by farmers, community and government so there is an incentive to deal with the problem.

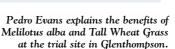
"Action by individual farmers won't be effective unless it is linked into a welldesigned catchment-scale approach and strengthened catchment-level agencies and processes will be needed to support such initiatives," he said.

There is also a need for a more co-ordinated whole-of-government approach at the three tiers of government so that all their initiatives support each other while encouraging appropriate management of the resources.

"We may need to change landuse and practices at a massive scale, but it will lead to benefits for the wider community in improved water quality, less infrastructure damage and conservation of biodiversity," said Greg Hayes.

The research team is looking to identify a range of practical measures that will provide the institutional support needed to help landholders and others to deal with dryland salinity.

Further information: Greg Hayes (02) 6041 1150, Fax (02) 6023 2768, Greg@virtualgroup.com.au





Legume shows potential

Melilotus alba, a legume collected in South America by Senior Research Agronomist Pedro Evans, is showing potential for mixing with Tall Wheat Grass or Puccinellia on saline soils.

At trials near Glenthompson, on raised beds, the legume has persisted in salted areas where white and strawberry clover have disappeared.

According to Pedro Evans the plant is already in use in Russia and Argentina on packed or degraded soils in pasture mixtures with Tall Wheat Grass.

"These soils are also quite saline in some areas," he said.

Melilotus alba grows mostly through the late spring and summer, providing feed during summer and autumn. Although Pedro Evans claims that autumn-sown Melilotus alba will come up and try to grow then as well.

It tolerates grazing but is not suitable for hay due to its ability to form toxins if allowed to ferment. The legume has been shown to have the same protein and digestibility as lucerne.

Pedro Evans believes a commercial variety of *Melilotus alba* will be available within three years. In the meantime, he says, the plant is used in the United States of America as an ingredient in tablets claimed to reduce cellulite!

For more information, contact Pedro at the Pastoral and Veterinary Research Institute, Hamilton, on (03) 5573 0900.



Volunteers to bring green back to Port Phillip Region





Sharing information about their Urban Bushcare projects are left Jason Summers, City of Brimbank, Elissa Simmons, Hume City Council and Bill Gould, Tullamarine Live Steam Society at the Greening Australia Victoria's Intergrated Urban Bushcare Project launch.

Society at the Greening Australia Victoria's Intergrated Urban Bushcare Project launch.

Community volunteers from 50 organisations around the Port Phillip region in Victoria will join together over the next two years in Victoria's first coordinated urban land rejuvenation program.

The Urban Bushcare project, will allow all Melbournians to join in reversing the long-term degradation of native vegetation in the Port Phillip region. Several thousand people and first-year funding of \$346,000 from the Federal Government's Natural Heritage Trust, will assist the landscape change over the next two years.

The area throughout the Port Phillip district extends from the Mornington Peninsula to the Dandenongs and includes waterways, wetlands, coastland and reserves. To assist with the landscape change, groups will receive funding for a variety of individual activities. For example, one group will re-establish vegetation of indigenous flora in the vicinity of their railway station, others will restore native vegetation along creeks, and a wildlife corridor extending from Gellibrand Hill to Moonee Ponds will be established.

Parliamentary Secretary to the Minister for the Environment and Heritage, Dr Sharman Stone, launched the project in February.

"With the help of community volunteers, the government is committed to reversing the long term decline in the quality and extent of the Port Phillip native vegetation cover by conserving local biological diversity and using vegetation to

Dr Stone said.

The 50 community organisations will each host work at their strategically-selected sites on which revegetation will take place. Other volunteers will fence remnant bush areas. Greening Australia Victoria as project managers, will provide equipment, technical assistance and advice throughout the two-year project.

Greening Australia Victoria President John Landy said this was a massive rejuvenation project to establish more than 200,000 local native plants and direct seed another 20,000 stems, as well as restoring more than 250 hectares of degraded vegetation

in the Melbourne metropolitan area.

"The Federal Government has made a commitment that at least 15 per cent of Bushcare funding will be directed to protecting and rehabilitating urban bushland.



Speaking at the official launch of the project,
Parliamentary Secretary to the Minister for
Environment and Heritage,
Dr Sharman Stone MP, said that the Commonwealth had committed \$346,000 in
Bushcare funding from the Natural Heritage Trust.

Greening Australia Victoria is pleased to be able to assist these groups repair the neglect that urban living has engendered on their environment around Port Phillip Bay," Mr Landy said.

This integrated Urban Bushcare project will give the metropolitan area a cleaner, greener outlook for all Melbournians and visitors to the city to enjoy.



These community volunteers represent over 50 groups who will, over the next two years, transform the Port Phillip region in Victoria's first co-ordinated urban land rejuvenation program.

1,790 projects approved, \$130 million invested so far.







Hundreds of Victorian communities getting the support they need to do the work that matters.