victorian

Landcare

Issue 8 Winter 1998

Addicted to deer

An end to the blue lagoon

Launch of future harvest

Congratulations to the Shire of Campaspe

Winner National Landcare Local Government Award

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Business Management
Wade Hughes
Wally Shaw
Peter Sutherland

Editorial Group
Paul Crock (03) 9207 5555
Mal Brown (03) 9412 4382
Sally Gibson (03) 9412 5048
Phil Roberts (03) 9207 5555

Editorial Consultant
Tiffany & Associates (03) 9894 2169

Advertising Manager
Paul Crock
Phone (03) 9207 5562, Fax (03) 9207 5500

Design
Bouquet Productions Pty. Ltd.
Phone (03) 9376 0911, Fax (03) 9376 0922

Printing
Henry Thacker Print Group
Breakwater, Geelong.
Phone (03) 5248 3333, Fax (03) 5248 7222

Cover Photograph
A winter scene - Andrew Chapman

Contributions and mailing list enquiries
Victorian Farmers Federation
Landcare Section, Level 6 24-28 Collins St, Melbourne 3000
Phone (03) 9207 5555 Fax (03) 9207 5500
E-mail: paul.crock@vff.org.au

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Creswick gets connected

Grants

The Farm$mart Rural Communications Centre at Creswick has been granted $100,000 to help produce a 'culture of community connection' in the south-west region of Victoria.

The funding is part of the State Government's Skills.net project which supports Internet training and access opportunities for thousands of people living in country Victoria.

Project co-ordinator, Fiona Chambers, said the Farm$mart Rural Communications Centre will provide free Internet access and training to farmers and community members. The centre will also work closely with farmer groups, agricultural extension and education providers such as TAFE, universities and agricultural consultants.

A computer laboratory of approximately 20 state-of-the-art computers with permanent modem links will be installed at the Creswick Landcare Centre.

Fiona said that, although recent estimates suggest 60% of Victoria's 30,000 full-time farmers have a personal computer, many of them are under utilised and relatively few are used to link farmers to the world wide web.

"Farm$mart recognises the importance of Australian farmers having access to the latest information and communication technologies to help their businesses establish and maintain a competitive edge."

"Farm$mart also recognises the opportunity to use these technologies as a catalyst for change. To achieve this, there needs to be strong bridges built between existing providers of education, extension and the farmers."

The first stage of the project will involve training and net orientation programs directed to a mix of farming and non-farming rural community members as well as the facilitators and organisers of community and farming groups in the region.

The Minister for Multimedia, Alan Stockdale (right) with Fred Davies from Stoney Creek Oil Products announcing the Skills.net grants at Bullarook.

The program will have a large element of peer-mentoring.

Fiona believes that, through working together, the centre will become a hotbed for local creativity.

For more information contact Fiona Chambers on (03) 5333 6782.

From the editors

So there we were, all the editors of The Victorian Landcare Magazine together in Canberra, in 'the big house' for the National Landcare Awards.

Well we didn't win but we did have a fantastic time. The awards were hosted by Yamatdje man and television personality Ernie Dingo. His irreverent sense of humour delighted the huge audience of landcarers from around Australia.

The Prime Minister, John Howard, and the Governor-General, Sir William Deane, presented the awards and both made rousing speeches in support of landcare. The theme of the night was 'Bringing the Bush to Parliament House'. With the help of the bushwackers bush band, graziers from Alice Springs danced the night away with dairy farmers from Tasmania. Scientists swapped tall stories and landcare group co-ordinators discussed their research.

Well done Landcare Australia for organising another successful round of National Landcare Awards. See our feature on pages 18 and 19 for details of the winners.

On the home front, the Creswick Landcare Centre had another success with its Landfest landcare festival. Creswick Education Officer, Geoff Park, reports that over 2,500 people attended the festival, with many travelling from Melbourne and further afield.

Landfest is fast becoming a major event on the landcare calendar; a great showcase of what's happening with groups, businesses and products. Landfest is a family festival and this year the organisers enticed famous Melbourne band Tiddas to sing at the festival. We hear Geoff Park is scanning the charts for who to invite next year and considering a new career as a rock concert promoter!

New additions to the magazine

In your responses to our reader survey, you highlighted "how to" stories and interviews with individuals as highest priorities, while giving us plenty of food for thought on all sorts of other things you wanted to see.

In this edition you will notice icons relating to various topics which you identified in the survey, location maps and contact details. These additions are to help you identify clearly with the things you want to read, where they are in Victoria and how to get more information.

We are listening to you and taking your lead. Please keep your stories and letters coming. We are always keen to receive them.

Mal Brown
Paul Crock
Sally Gibson
Phil Roberts

Over 2,500 people attended Creswick's Landfest during Landcare Month.

Letters to the editor

Dear Mr Crock, Mr Brown and Ms Gibson

I wish to congratulate you on being a finalist for the National Landcare Awards 1998 in the Ford Landcare Media Award Category.

I was at the Great Hall in Parliament House in Canberra to see the award presentation and was very impressed by the standard of the Victorian finalists.

The work which you have done in respect to landcare is a credit to Victoria and a reflection on your commitment, dedication and perseverance to improving land and water quality.

I would like to thank you for your participation and wish you continued success.

Yours sincerely

Hon. Marie Tehan, MP
Minister for Conservation and Land Management

Dear Members of the Editorial Committee

On behalf of the Australian Landcare Council, I would like to congratulate you on your committee's outstanding achievement in winning the Ford Landcare Media Award for Victoria in the Landcare Awards.

I was pleased to be present at the Eaglehawk resort on 24 March for some of the national judging and discussions between state award winners. I was also at the presentation of awards in the Great Hall at Parliament House. So I am personally aware of your work, and I congratulate you for the commitment you have shown to fostering the landcare ethic.

The Australian Landcare Council is made up of community landcare representatives from each state, and related organisations and agencies. Your community representative is Ms Alison Teece.

For the Council to properly fulfil its function, it must act as a conduit on federal landcare policy from community groups at the one end to the Ministers at the other.

The Australian Landcare Council can be most effective it is used by local, regional and state landcare bodies. We welcome communications on federal policy issues.

Yours sincerely

Bruce Lloyd
Chairman

Where are the NHT funds being spent in Victoria?

The figure below indicates Victoria's regional totals for federally funded projects under the Natural Heritage Trust for 1997/98. The bar graphs show the percentage share from major initiatives.

Victoria's total share of the NHT for 1996/97 was $33,530,777. This comprises:

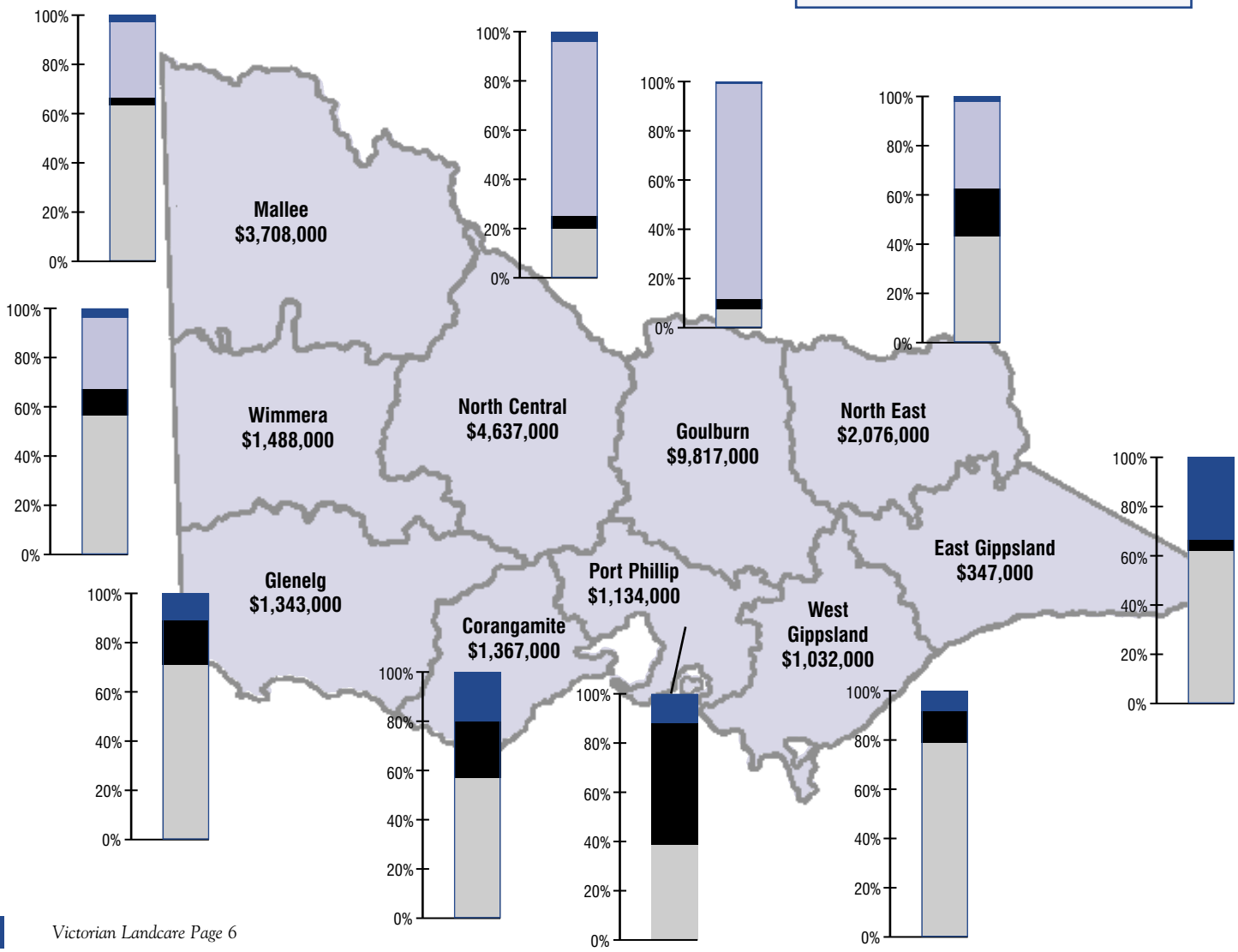
$14.17M National Landcare Program;
$2.99M Native Vegetation Initiative;
$0.16M National Reserves Initiative;
$0.23M National Wetlands Program;
$0.19M Fisheries Action Program;
$14.75M Murray Darling 2001;
$0.65M Farm Forestry; and
$0.38M Water Watch.

Victoria shared 18% of the national 1997/98 NHT allocation of $186.9M. It is expected that, in 1998/99, the NHT will allocate $290.4M to improved natural resource management across Australia.

NHT 1997/98 Federally Funded Projects

National Landcare Program
Native Vegetation Initiative
MD2001
Other

NB: Regional values are total NHT dollars for 1997/98, eg. Glenelg $1,343,000.



Mining Week launched with Landcare seminar in Bendigo

A recent Landcare seminar to mark the beginning of Mining Week in March helped forge a new understanding between the mining industry and the Landcare movement.

Speakers included Mr Bruce Lloyd, Chairman, Australian Landcare Council, Mr Douglas Buerger, Managing Director, Bendigo Mining; Mr Alex Arbuthnot, Board member, Landcare Australia Limited; Mr David Lea, Executive Director - Minerals and Petroleum, DNRE; Marilyn Sprague from Goldfields Nursery; Rob Youl, Landcare Foundation Victoria and Doug Sceney, DNRE.

A look at Victoria's early mining industry reveals that in the six years following the official recognition of gold discoveries in Victoria in 1851, the population rose sixfold. This period had a devastating impact on the environment of Victoria and land rehabilitation was not part of the vocbaulary of these early miners. They really needed Landcare!

Mr William McLusky, Chairman of Perseverance Mining, with Mining Week Bear at the Landcare and Mining Seminar.

On the down side, much of the forest cover in Central Victoria was cut down for fuel or timber; extensively-mined areas became the source of significant erosion; the early concentration on alluvial mining resulted in selective clearing of certain forest communities; and rivers and streams were polluted permanently with mercury, arsenic and sediment.

On the other hand, Victoria produced around 2,500 tonnes of gold over a century and the wealth created fuelled the establishment of the affluent, well educated society we now enjoy.

Also, much of our natural wealth was left intact because of the limitations of the technology of the day. For example, remnant topsoil profiles remain in many areas between small-scale diggings and trees were most often cut and allowed to regrow from the stump rather than removed altogether. The legacy of environmental and other problems associated with early mining gave rise to a long history of regulatory innovation. This led to the current mining legislation.

The State Government's Victorian Initiative for Minerals and Petroleum, a $16.5M progam of mapping and surveying, is credited with opening up new areas of the state for exploration. Yet, modern mining is a very small user of land. The area of land actually affected by mining in Victoria is estimated to be 0.02% of the State (AMIC 1994).

"Environmental awareness is a recent phenomenon within the mining industry but now there is widespread commitment to environmental management," according to Marilyn Sprague who operates Goldfields Revegetation, Bendigo's Indigenous Nursery and Wildflower Farm.

Marilyn Sprague, Goldfields Nursery, explains mine site revegetation to Bruce Lloyd, Chairman of the Australian Landcare Council.

"Miners, like farmers, have woken up to the need to protect the land they manage. Miners and farmers need to understand the land. They must seek out information and use best practice rather than trial and error. In this regard, miners lead the way in the use of technology", said Marilyn.

"Good rehabilitation need not compromise genetic diversity." Marilyn illustrated the point with samples of four varieties of grevillea that must be put back only on the site from which they came, adding that we must not risk cross pollination and ultimate genetic loss.

"Mining and agriculture continue to be the backbone of Victoria and Australia. Victoria continues to fight above its weight with agriculture producing 26% of the nation's agricultural production from just 3% of the national land mass," said David Lea.

According to Mr Lea: "Both farmers and miners have impacted on the land and both are working to restore the land. The mining industry wants the community to know that modern mining is far more environmentally responsible than the mining of the 19th century."

Bruce Lloyd reminded participants that mining companies are among the best corporate supporters of Landcare.

Greenfleet

The Australian landscape is degrading rapidly. Vast former grasslands are now desert. We constantly hear stories of rising watertables, increased salinity, soil erosion and loss of species and habitat for native flora and fauna.

There are large tracts of land available and the willingness to plant the trees, but the difficulty lies in securing the funds necessary to support large scale projects.

Now there is a solution.

Motor cars are the fastest growing source of greenhouse gas emissions in the world. The average car in the Australian fleet emits 4.33 tonnes of carbon dioxide (a significant greenhouse gas) per year.

People have long identified driving their cars as the most environmentally damaging thing they do but, so far, have not had a mechanism to reduce that impact.

It is generally accepted that one long-term solution to the greenhouse problem involves massive revegetation programs.

The Foster Foundation (a not-for-profit environmental education organisation) has hence developed the Greenfleet project.

Greenfleet invites motorists to make a tax-deductible contribution of $25 each year to enable at least seven trees to be planted on their behalf to absorb the carbon dioxide emissions of their vehicle.

Already, thousands of motorists and many corporations have signed up their vehicles to help Greenfleet and Landcare groups tackle greenhouse and landcare problems.

Through the motorist's subscriptions, 65,000 trees have already been planted in the Bass Coast Shire. They were planted by Scouts Australia as part of a successful world record tree-planting attempt, with assistance and direction from local landcare groups and industry.

Both professional planters and community groups will work together this year to plant 500,000 trees in the Ovens River catchment area in northern Victoria. Local nurseries have already propagated 250,000 trees for the Ovens River planting.

Greenfleet not only conducts environmental plantings but will also be involved with agroforestry and plantations. It is a unique project that will benefit not only the environment but also create employment and assist the farmers on whose land most of the trees will be planted.

Through motorists' subscriptions, 65,000 trees have already been planted on farming properties in the Bass Coast Shire by Scouts Australia.

For more information or to subscribe contact the Foster Foundation on 1900 140 197 (maximum call cost 75 cents per minute, mobile and pay phones extra).

Greenfleet

Communicating over the Catchment

How do we value wildlife?

Putting a dollar value on our native animals is a difficult task, and it probably misses the point. There is scientific value, habitat value, tourism value and intrinsic value in our native animals. There is also value in maintaining a diversity of wildlife in the environment.

The Melbourne Zoo Education Service is inviting schools and landcare groups to discuss how we value wildlife and share information on different environmental projects. The Murray Darling Basin Commission has provided funding for the project which is called Communicating over the Catchment.

The Zoo Education Service is co-ordinating a website and a live satellite broadcast to schools in south-eastern Australia. The website and broadcast will raise questions about how and why we value our wildlife.

Staff from the Zoo Education Service are currently filming projects for the satellite broadcast on 9 September, 1998. If your school or landcare group has an environmental project, be it carp infestation, or native mammal conservation it may be suitable for filming and inclusion in the broadcast.

Contact Communicating over the Catchment. The web site includes competitions, discussion groups, and live chat. http://www.coc.zoo.org.au/studcon.html. Or call the Zoo on (03) 9285 9300.

Break of slope tree plantings reduce recharge

By Jo Curkpatrick, Communication Co-ordinator, National Dryland Salinity Program

Salinity co-ordinators and chairs of Salinity Implementation Groups from across Victoria recently inspected break of slope forestry for catchment salinity control in volcanic hills on the north-eastern end of the Strathbogie Ranges.

The site, at Richard Sadler and Meredith Paez's property in the Warrenbayne area, was established with a belt of commercial blue gums in 1992 to intercept and use water below the surface of the slope.

"We have waterlogging and salinity across our farm and break of slope plantings showed potential for reducing dryland salinity as well as providing a commercial return," Richard Sadler told the visitors.

"The trees initially showed good growth rates but they are really suffering from moisture stress at the moment," he said.

"They are too dry for pulping so we will grow them on for timber, but yes, they have dried out the soil profile."

There have been over 120 hectares of trees planted in suitable areas at the break of slope over the past five years.

Initially the sites were planted predominantly with blue gums but now there are a wide variety of species being planted including ironbarks, spotted gums and pines. These species may prove to be more drought resistant than the blue gums but still provide good growth and high water use characteristics.

According to Geoff Elder from the Centre for Land Protection Research at Bendigo the trees on the Warrenbayne site have successfully reduced groundwater recharge to very low levels within five years of their establishment.

"Our research shows that, at this early stage, the impact on water tables extends at least 50 metres downslope of the Sadler plantation," Geoff Elder said.

At the Harrison's site, 150m close by, Richard Sadler suggested that landholders shouldn't under estimate the work required to manage the trees.

He advises landholders to concentrate on small areas, or perhaps look at joint ventures to share the management.

"The project has taught us quite a bit. It has shown that we really need to look at the kind of trees we plant, the width of the plantation, the location of the trees on the slope and tree management. These are all important factors in making a success of break of slope plantings," said Geoff Elder.

"We now think that the trees on the Warrenbayne site were actually planted too far up the slope. But by looking at the site and doing some drilling to identify where the rocks stop you can more accurately site the tree belts," he said.

For more information contact Richard Sadler on (03) 5763 2231 or Geoff Elder at Bendigo on (03) 5444 6777.

Kids Plant the Aire

By Michelle MacEwan

The Date: Late spring 1997.
The Crew: Three mini-buses full of eager Prep, year 1 and 2 Apollo Bay school children.
The Place: Peter and Lisa Deppeler's farm on the Aire River near Hordern Vale.
The Task: To begin revegetating the banks of the Aire Heritage River.

Property owners and Landcare members, Peter and Lisa Deppeler had successfully applied for funding from Waterways Management Incentive to begin rehabilitating their property's Aire Heritage River frontage.

The students at the Apollo Bay School had responded enthusiastically to the Deppeler's call for volunteers.

Landcare Technical Advisor for the Colac/Otway region, Wendy Briggs, was present to inform everyone on the importance of streamside vegetation and river conservation.

She spoke on issues ranging from fencing-out stock to providing a healthy environment for the local platypus. Diagrams were used to illustrate the difference between degraded river banks with unlimited stock access and river banks which had been fenced off and revegetated with local mixed species.

Work began following brief instructions on how to plant trees and push reeds into the mud. Each student was given a supply of water rush, tea tree and larger trees. These were all planted in different zones of the river bank.

The students enjoyed getting their hands dirty and gained a valuable understanding of the basics of river bank rehabilitation. At the end of the day, lots of happy children covered in mud, climbed back onto the buses and headed for home. Hopefully, they will come back in the future to see the results of their efforts.

Fisho's follow-up

Due to this year being exceptionally dry, the survival of the new trees was looking grim until some unexpected assistance arrived.

When the fish have not been biting, local fishermen have been lending a hand in an effort to keep the trees alive. By watering the trees, the fishermen have been helping establish habitat for the fish and, in doing so, will be increasing the catch for their tables.

The Hordern Vale/Glen Aire Landcare Group has been operating for less than 12 months. Surrounded by National Park, State Forest, the ocean, including the Aire Heritage River and significant wetlands, the group is extremely fortunate to be in such a unique area.

Revegetating streamsides to maintain the health of our rivers will continue to be high on the list of priorities.

For more information contact either Michelle MacEwan on (03) 5233 5500 or Lisa Deppeler on (03) 5237 9266.

Millewa-Carwarp Kangaroo Fence

Troy Muster,
Group Coordinator

Ten wire sloping fence has four live and six earth wires. Materials costs were $1,600/km.

Millewa-Carwarp Landcare Group members are close to finishing 120km of electric fencing along the boundary of the Murray Sunset National Park to reduce the impact of kangaroos on crops and pastures in adjoining freehold land.

In the past, conventional fencing proved ineffective in preventing kangaroo access to farmland. The animals in the area were able to utilise the artificial water and food supplies on the farms and shelter in the park, leading to higher populations than would otherwise naturally occur.

Past methods of control through the issuing of wildlife destruction permits had little or no effect in minimising the problem.

In 1991, the Landcare group and the Meringur branch of the VFF started to lobby the State Government for financial support for the fence along the boundary of the park with the hope it would effectively control the kangaroo problem.

Thirty thousand dollars was received by the Landcare group to erect a demonstration electric fence along a 30km section of the park boundary in the south-east Millewa.

After looking at various options for the design of the fence, a sloping nine wire electric fence was chosen.

The demonstration fence was officially commissioned in November 1993 costing $46,000 plus erection costs, of which the Landcare group members contributed $16,000 in materials plus labour.

The fence proved to be very effective and the group began looking at options to expand the project.

In 1994, the group successfully sought funding through the DNRE Good Neighbour Program to build a second 50km stage of the electric fence along the western boundary of the Millewa-Carwarp Landcare area.

Following negotiations between the Landcare group and DNRE, it was agreed that DNRE supply 60% of the cost of materials for an eight-wire vertical electric fence. Group members contributed the remaining 40% cost of materials and the labour to erect it.

This section was completed in 1996, leaving a gap of 40km in the south-west Millewa between the first and second stages of the fence.

The group successfully sought funding again through the Good Neighbour Program last year to complete the remaining 40km of the fence. As before, the group provided 40% of the materials and all the labour.

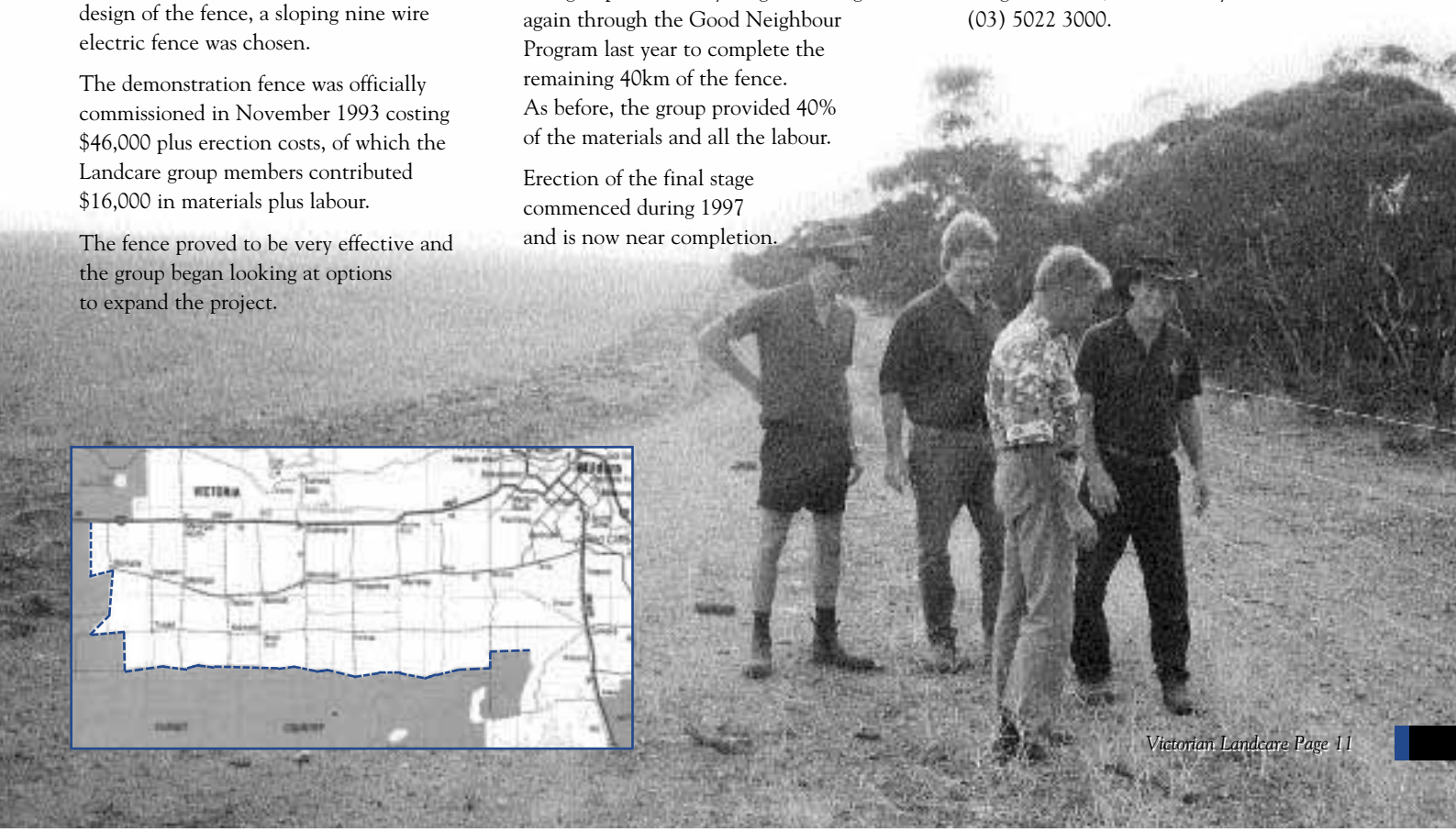
Erection of the final stage commenced during 1997 and is now near completion.

When completed, the fence will run for a total of 120km.

Group members who have taken part in this project have noticed a dramatic reduction in the impact of kangaroos on their property and are overwhelming in their support for the project.

Parks Victoria is monitoring the fence to determine the impact of the change in management on kangaroo populations within Murray Sunset National Park. It is expected that, in the years to come, they will start to see a reduction in the kangaroo population to a more natural level.

For more information about the Millewa-Carwarp Landcare Group or the kangaroo fence, contact Troy Muster on (03) 5022 3000.



In brief

Landcare Group Survey

In June this year, Victorian Landcare group members are asked to participate in a third Landcare survey - the only longitudinal study providing data on the Landcare movement over time. The surveys were conducted by Dr Allan Curtis of Charles Sturt University, in 1993/94 and 1995/96. They measure the change in participation in Landcare and help identify the barriers to increasing participation.

In the 1995 survey, Dr Curtis identified the characteristics of highly effective groups, effective groups and non-effective groups and those not working so well. Filling in the survey will take no more than half an hour and your co-operation will be greatly appreciated. A summary of the findings will be included in a future issue of the Victorian Landcare Magazine.

BHP Targets Powlett Project

Over the next three years BHP will contribute around $150,000 to help groups involved in South Gippsland's Powlett Project carry out Landcare activities aimed at addressing major soil and water degradation problems throughout the entire catchment. Further assistance will also come in the form of BHP staff adopting the area for weekend activities such as tree planting, seed collection, weed control and water quality monitoring.

The sponsorship is part of a total package of $450,000 BHP will contribute to Landcare work throughout Australia. Two other catchments; the Mary in Queensland and the Hunter Valley in NSW, also being sponsored by BHP have modelled their approach on the Powlett Project which has been running successfully for two years.

Landcare has a voice

By Phil Roberts, Executive Officer VFF Farm Tree and Landcare Association

The Victorian Farmers Federation has renewed its support for the Landcare movement across the State with sweeping changes to its Landcare section.

Designed to reduce the demands on volunteer office-bearers who are the backbone of Landcare groups, the VFF landcare section is there to help.

There are more than 400 landcare groups in Victoria affiliated with the VFF through the VFF Farm Tree and Landcare Association. These groups are incorporated and insured in one simple process, and for one flat fee per group, an initiative which has been effective in reducing the administrative load to all Victorian Landcare groups.

Peter Walsh, Deputy President of the VFF and President of the VFF/FTLA, said the new landcare package will remove a group's administration burden.

"The VFF is providing a package that gives groups incorporation, insurance and a copy of the *Victorian Landcare* magazine to all their members. Being affiliated with the VFF/FTLA means groups only need to write one cheque to cover all these services," Peter said.

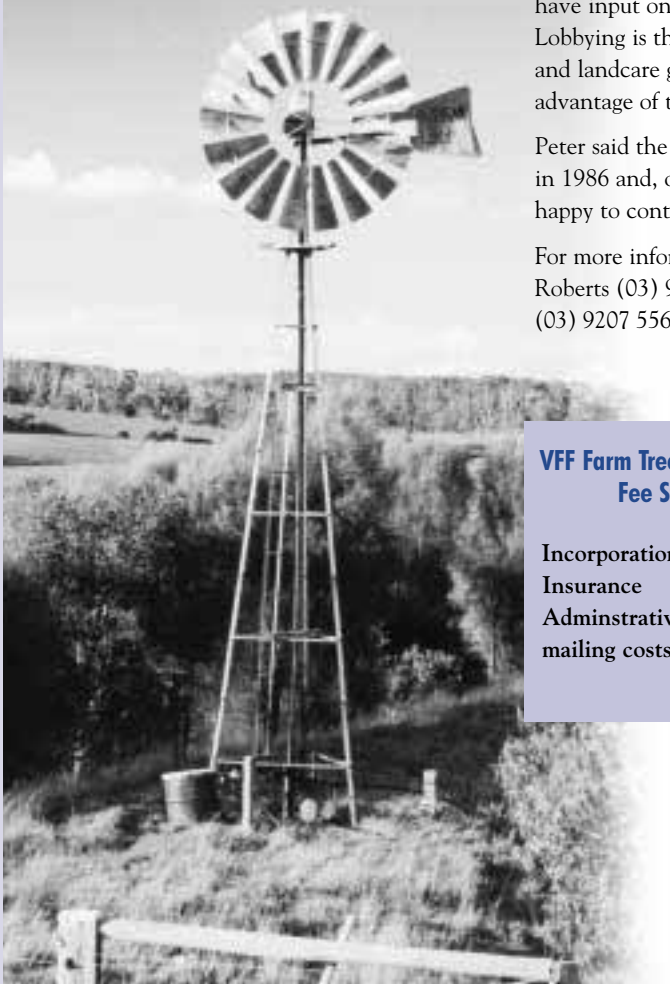
"By lessening the administration involved with incorporation and insurance, groups can spend less time on administration and more time on landcare activities."

Peter said the VFF provides Victorian farmers with a voice to lobby governments. The new structure within the VFF will now also provide a direct lobbying voice for Victorian landcare groups on issues ranging from the Natural Heritage Trust process to River Front Licensing and other land management issues.

"The VFF NHT submission will give Victorian landcarers a chance to have input on an important topic. Lobbying is the VFF's core activity and landcare groups can now take advantage of this," he said.

Peter said the VFF helped start landcare in 1986 and, over ten years later, are happy to continue the tradition.

For more information, contact Phil Roberts (03) 9207 5561, Paul Crock (03) 9207 5562 or Jon Pitt (03) 9207 5560.



VFF Farm Trees and Landcare Association Fee Structure for 1998/99

Incorporation	**$20 per group**
Insurance	**$63 per group**
Adminstrative/ mailing costs	**$2 per mailing address**

Whiteheads Creek

By David Hayward

Group News

Whiteheads Creek was settled in the 1840s by squatters and, during the 1860s, opened for selection in parcels of up to 130ha. Most of the land was cleared for firewood for Melbourne and for railway sleepers including the box-ironbark covering the ironstone hills.

We are now faced with salinity as a serious and worsening problem. Whiteheads Creek is presently a major contributor of salt to the Goulburn River. Discharge sites with spiny rush and gully erosion are expanding.

Serious flooding of Seymour township in the early 1970s led to the formation of the Whiteheads Creek Soil Conservation Group in 1977, which later developed into one of the earliest landcare groups in 1986. We now have about 50 of the local landowners active and financial.

To combat salinity, our major priority, we advocate tree planting and pasture improvement on recharge sites. Each year, we try to plant several hectares of high density trees as a landcare project on recharge hilltops, either as tubestock or as seed stock.

Some successful trials of aerial pasture seeding have also taken place where conventional methods are impossible. We own and hire out a direct drill seeder and two spray units to enable smaller properties to undertake pasture work.

The group considers education about salinity is vital, hence our 'salt trail'. This comprises two information boards on our main roads and maps to find significant sites which have been signposted. We also have our own Landcare brochure.

In conjunction with three other Landcare groups with high recharge ironstone country in the Mitchell Shire, we have appointed a salinity co-ordinator to help promote works on the ground. This includes production of a newsletter, organising appropriate guest speakers and field days and production of a booklet of contacts for landcare works. The Mitchell Shire provides office space and some backup.

Group members preparing high recharge country for planting.

Whiteheads Creek Landcare Group is now part of the Hughes Creek Catchment Collaborative, providing us with the benefit of their vast experience with rabbit eradication as well as the advantage of being part of a larger group which aids greatly in funding.

A trial sub-catchment has been established over an area of 200ha which includes about 40ha of recharge. Most of this area has either been sown down with deep-rooted perennial pasture or planted with trees over the last decade or so. As yet, there is no fall in the watertable or decline in the EC reading of the groundwater. This suggests that the work of the Whiteheads Creek Landcare Group has only just begun.

Local landholder, Ken Munzel, and his daughter beside the sump of a new irrigation re-use system.

An

Group News

By Carri Tiffany

The future of the Gum and Cockatoo Lagoons, near Gunbower, is looking up with the completion of a nutrient and flow management strategy.

The lagoons are isolated meanders of the Gunbower Creek providing an irrigation supply for eight local landholders. Because the lagoons were so isolated they had little flow which, when coupled with high nutrient loads from surrounding properties, caused severe outbreaks of blue-green algae.

The blooms were first noticed more than five years ago and have since been a regular occurrence, the worst being the summer of 1994/95. The community were very upset over the issue and were moved to form the Gunbower Landcare Group in 1994 in an attempt to address the problems.

The blooms have threatened the lagoon environment and forced some landholders to find water supplies elsewhere.

A major study of the lagoon system was done in 1995. The report that followed recommended works to improve flows and 'mixing' within the lagoons along with the adoption of best management practices by landholders to reduce nutrient runoff. The report stressed that flow improvements could only be undertaken with reduced nutrient inputs or the problem would simply be transferred downstream.

The first stage of the flow improvement works have recently been completed by Goulburn-Murray Water. The works will allow up to 50ML per day to pass through the lagoons to improve flows and mixing. The major costs of the project will be shared by Goulburn-Murray Water and the Shire of Campaspe. Landholders will be contributing by undertaking a range of nutrient reduction works on their properties.

These include:

- re-use systems to intercept irrigation runoff;
- whole farm plans to improve management of flood irrigation;
- installing/improving effluent management systems and disposal;
- fencing the lagoon frontages to encourage the regeneration of native species and to provide a buffer strip for filtering rainfall runoff to the lagoons.
- fencing to prevent stock access to the frontages will reduce nutrients and allow regeneration to occur; and,
- planting of indigenous vegetation in fenced frontage areas to create a buffer zone.

According to the project co-ordinator, Louise Thomas of the Department of Natural Resources and Environment in Kerang, improving water quality in the lagoons will have considerable agricultural benefits.

Landholders from around the lagoon gathered at the opening of 'Jumbo's Cut', a channel to provide improved flow in Cockatoo Lagoon.

end to the blue lagoon

Gum Lagoon

"Cleaner water for irrigation, stock and domestic supply will be very important to these landholders and, at the same time, keeping the nutrients and irrigation tailwater on the farm will provide savings in both water and fertiliser."

Louise said the environment would also benefit with improved conditions for fish, vertebrates and invertebrates. She is pleased to report that many landholders have already started with nutrient reduction works and are showing a lot of enthusiasm for the project.

According to Debbie Munzel, a dairy farmer near Gum Lagoon, the flow improvement works are already making a difference.

"This summer the flow through Gum was much improved, although we did have an algal bloom halfway through the irrigation season. This meant the lagoon had to be shut off which actually makes the algae worse, but we can't allow it to get downstream."

Debbie said that despite the hiccup during summer, local landholders are noticing flow improvements.

"Seeing the flow improve gives us hope for the future, we are looking forward to seeing the health of the lagoon improve over time."

"Being involved in the project has made us much more aware and given us access to many resources we didn't know were available," Debbie said. "We are using the Torrumbarry East of Loddon Land and Water Management Strategy incentives for farm planning, re-use systems and trees which are helping us to decrease our impact on the lagoon environment. This is a whole-of-community project. It's been great to see everyone get involved."

Louise Thomas is busy monitoring and recording improvements in the water quality of the lagoon. Regular readings are taken for nitrogen and phosphorous, turbidity (cloudiness of the water), salinity and temperature.

She is also busy telling people about the project, which she believes, is the first of its kind.

"This project will act as a pilot for other lagoon catchments in the area with similar water quality problems," she said.

For further information contact Louise Thomas on (03) 5451 0105.

Blue-green algal scum on Cockatoo Lagoon in October 1994.

An aerial photograph taken in 1990. Cockatoo Lagoon (left) and Gum Lagoon (right) show up as dark and isolated watercourses that barely connect to their source, the Gunbower Creek in light brown.

Addicted to

Straight from the freezer. Guy Dockrill with a pair of antlers ready to be sent to New Zealand for processing.

Don't use the terms 'new' or 'alternative' around an Australian deer farmer. They'll quickly put you right.

Deer have been farmed successfully in Australia since the 1970s. The industry has survived the initial boom and bust cycle of any emerging enterprise and gone on to create strong demand for its product, both locally and to export markets.

The current challenge for Australian deer farmers is surviving the economic downturn in many Asian countries.

Farming deer can provide three sources of income: meat, antler and the sale of breeding stock.

Deer meat, venison, is highly regarded. It is low in saturated fats and very lean. Over 80% of Australian-produced venison is exported, mainly to Asia.

Velvet antler is the complete antler of a male deer, harvested on a yearly basis. The antlers are removed as soft tissue before they calcify and harden. The active ingredient of velvet antler is called pantocrin. It is used extensively as an oriental tonic, particularly in Korea. Australian researchers have shown it is valuable in the treatment of arthritis. In New Zealand, a team of athletes at Otago University took velvet antler capsules during a trial and recorded a significant improvement in their strength tests.

Deer offer relatively hassle-free farming. They can be run on most pastures used for sheep and cattle although higher quality and irrigated pastures produce better results. Special fencing and handling sheds are needed but it is possible to convert existing fences and farm buildings without incurring great expense.

From a landcare point of view, deer, with their small soft hooves, are certainly much kinder to the soil than cattle. And they are hardy animals, with few pest and disease problems.

So why isn't the Australian deer industry bigger, more vocal, and more visible?

The NZ connection

According to Guy Dockrill, the manager of Ostlers Hill Deer Stud at Flinders, the answer is about the nature of Australian farmers: "Often not very entrepreneurial."

Guy is from New Zealand where the deer industry is huge. It grosses around $200 million a year, equal to the dairy industry. Guy said there is nothing stopping Australia from becoming a bigger deer farming nation than New Zealand.

"Over here, there is more land and better land. Deer could be huge. We need to work on developing good markets for our products and raising the profile of Australian deer," he said.

Guy and his wife Julie came to Australia five years ago, bringing a great deal of knowledge about deer farming and breeding. Guy worked for the NZ

Deer

Farm Feature

By Carri Tiffany

Inside the handling shed. Guy Dockrill says many prospective deer farmers are put off by the look of this purpose-built shed but most farm buildings and even old houses can be quite simply converted.

Agriculture Department and was one of the country's leading deer farmers. At Ostlers Hill, he manages 850 head of red deer as breeding stock for velvet antler and for venison.

There is no irrigation on the 150ha Ostlers Hill property. Some paddocks are sown to chicory. Rice and apple hulls are also fed. Guy runs the deer at around 36 DSE/ha. The property has been specifically designed for deer.

A large central laneway runs the length of the farm adjoining the numerous paddocks. The deer are kept in breeding groups according to their strain: Hungarian, Yugoslavian, German and British.

When the deer require handling or velveting (antler removal) they are driven into a large purpose-built shed with solid partitions that can split and divided into increasingly smaller yards. Deer like to move together. They prefer to turn in a circular motion than move up through straight raceways.

Removing deer antlers requires skill and experience. The soft antlers are filled with blood and nerves. Guy said it's a bit like a person re-growing their arm or leg each year. He's accredited to cut his own velvet and has done 2-3,000 head.

The deer are secured in a padded crush where they are injected with pain killers and local anaesthetic.

The antlers are removed with a saw, frozen, then sent to New Zealand for processing or exported to Korea or China. The best two-year-olds at Ostlers Hill are growing around 2.5kg of velvet each year. Although Guy said this is good, it's way short of New Zealand where 4kg is now not uncommon.

The Dockrills are aiming to bring their Ostlers Hill deer up to the best in New Zealand, and world standards. To improve herd quality quickly, they have been importing high-quality live deer embryos from New Zealand and implanting them in local females (hinds).

"Many deer farmers use artificial insemination (AI) to improve herd quality. With AI, you get good semen but what's the point of putting that into a poor quality hind? We are getting great results with embryo implantation. It is new technology and the possibilities are very exciting," he said.

Guy Dockrill said there are few negatives in deer farming. He admits that deer chew trees and that handling can sometimes be risky.

"A big stag in rut with a full head of hard antler can be lethal. And yes, people do get killed. But there are sensible precautions to take. We remove all antlers when they are still soft and we stay alert at all times, even when handling hinds."

For Guy, the animal husbandry is a challenge he clearly enjoys.

"Deer are highly intelligent animals. They are predictably unpredictable. Over time, you start to learn their secrets, then you're hooked. It's like an addiction. They are regal animals, truly regal animals."

For further information contact the Deer Industry Association of Australia on (03) 9482 6230.

Campaspe wins Local Govern

Parliament House was awash with country music and colour in March where, for the first time in 10 years, the National Landcare Awards turned up a winner from every state and the Northern Territory.

Prime Minister, John Howard, presented 10 awards in the presence of the Governor-General, adding strong praise for the work of community landcare.

"The Australian landcare movement, where communities tackle local problems with such enormous energy, dedication and innovation, is the envy of the world," Mr Howard said.

"This method of tackling land and water degradation is delivering real and lasting benefits and participation is growing with more than 4250 groups formed."

Sixty-eight finalists from all over Australia gathered in Parliament House for a fun night of bush dancing to the Bushwackers and, with Ernie Dingo as MC, the theme of 'Bringing the Bush to Parliament House' really came to life.

Shire of Campaspe wins Local Government Award

The corks were flying in Victoria's Shire of Campaspe when the Prime Minister announced the National Telstra Landcare Local Government Award. The award is made to a local government organisation for excellence in preserving and managing its local environment and encouraging a landcare ethic, and action in the local community.

The Shire of Campaspe beat the other State and Territory finalists, Maitland City Council (NSW), Maroochy Shire Council (Qld), Coorong District Council (SA), Litchfield Shire Council (NT) and Huon Valley Council (Tas) to the prestigious award.

The Mayor of Campaspe, Greg Toll, received the award from the Prime Minister. He paid special thanks to Jan Boynton who held the position of Manager of Strategy and Planning at the Shire before moving on to become CEO of the North Central Catchment Management Authority. He also thanked David Merrett, the new Strategic Planner, who, he said, "shows great commitment for carrying on the good work".

Located in the fertile Shepparton Irrigation Region, the Shire of Campaspe relies heavily on agriculture for its long-term survival and prosperity. The council has made ecological sustainability one of its key objectives and is committed to being pro-active in the prevention of environmental problems and the maintenance of biodiversity.

An Integrated Strategy Plan provides direction for the environmental, social and physical development of the shire, looking ahead to the year 2010. The plan contains objectives, policies and actions, which cover agriculture, environment, tourism, heritage and urban development.

There are 22 active landcare groups in the shire. Many are members of the Goulburn Murray Landcare Network which provides a two-way flow of information for groups in the eastern part of the shire.

Merv and Jan Cupper, finalists in the Primary Producer category enjoyed the awards.

Bruce and Marianne Standfield, Victorian finalists for the Individual Landcare Award met Ernie Dingo under the Fish Creek sign in Parliament House.

The council runs a Community Grants Program for landcare and waterwatch groups and, in 1996, 12 groups were funded with a total of $40,000. Projects ranged from engineering a weed machine to employing a project co-ordinator.

The council supports the employment of a local Salinity Link Officer by two landcare groups and a senior officer of the council sits on the steering committee. Some landcare groups are given in-kind support such as photocopying. There is a subsidised tree scheme for private landholders and free trees and fencing materials for landcare groups for certain projects.

As part of the Shepparton Irrigation Area, one of the shire's main environmental issues is drainage. The council is involved in the Community Surface Drainage Scheme and its role involves facilitating routes, raising rates and contributing to construction and maintenance. The council's planning controls require that, in irrigation areas, whole-farm plans must be in place before activities such as land forming can be carried out.

ment Award

From left: Greg Toll, Mayor of Campaspe; John Claringbould, Chairman, Landcare Australia; Prime Minister, John Howard; Ziggy Switkowski from Telstra; and David Merrett from the Shire of Campaspe.

David Merrett said winning the award has given weight to landcare issues during the preparation of the council's next budget round. An independent external auditor recently found that the council's community grants program was not 'core council business'. David said money is so tight it might seem easy to make cuts to landcare and the environment but a small investment now will reap benefits in the future. He is looking forward to continuing and expanding the council's landcare projects.

Winners meet winners in Tasmania

Dairy farmers Tom and Sue Loughridge from Loch in Gippsland shared the 1998 Landcare Travel/Study Scholarship with Clair O'Brien from Mary River in the Northern Territory.

The Loughridges won the National Landcare Primary Producer Award in 1996. At the 1996 awards ceremony, they met a swag of Tasmanian national award winners and they will use the scholarship to visit them.

Sue Loughridge said the Tasmanian trip would combine their professional interests in dairying with their landcare interests in commercial treegrowing, the benefits of shelter and helping manage neighbourhood projects.

"We plan to start the trip in Launceston, visiting dairying and other intensively-farmed districts in northern Tasmania. Then we would love to call on Biz and Lindsay Nicolson in the Midlands, and Tom and Cynthia Dunbabin at Bangor.

Both are previous national award winners who we met in Canberra."

The Loughridges are also keen to visit New Zealand, particularly the southern Canterbury Plains which, although devoted to sheep and cropping, offer outstanding examples of farm shelter systems with integrated wood production.

The Loughridges plan to share the lessons of their travels through their involvement with the South Gippsland Landcare Network.

The winners are:

Telstra Landcare Education Award -
Beachmere State School, QLD

Telstra Landcare Local Government Award -
Shire of Campaspe, VIC

Fuji Xerox Landcare Business Award -
The Bunnings WaterCare Program, WA

Cotton Australia Landcare Primary Producer -
Kym and Brian Denver, SA

BP Landcare Catchment Award -
Katanning Creek Catchment Group, WA

Bushcare Landcare Nature Conservation Award -
Bushland Conservation, SA

Alcoa of Australia Landcare Community Group Award -
Centralian Land Management Association, NT

Ford Landcare Media Award -
Keva Gocher, ABC S-E Radio, Bega NSW

National Landcare Program Individual Landcarer -
Sandy Paton, QLD

BHP Landcare Research Award -
Forest Soils Mapping Project, TAS

Premier launches Future Harvest Exhibition

Victorian Premier, Jeff Kennett, officially opened the unique travelling exhibition, Future Harvest, at Moe Town Hall on 31 March. The Museum of Victoria initiative looks at what the 21st century may hold for farmers and tackles the major issues confronting the agricultural industry.

Future Harvest delivers facts about the future of agriculture and food production through interactive exhibits. Mr Kennett said the exhibition was one of a 'bumper' crop of projects made possible by the State Government's Community Support Fund (CSF), which contributed $285,000.

"The Future Harvest exhibition, like all CSF projects, is creating enormous social advantage for the Victorian community," Mr Kennett said.

"It is at our children that these exhibitions should be directed."

"The community is doing a lot of good work and there are literally thousands of Victorians working towards improving the quality of the environment we live in," he said.

The exhibition looks at the past, present and sustainable future of farming in Australia and more than 50,000 school children, each armed with a curriculum-based education resource kit and case studies particular to their local area, are expected to benefit from the exhibition as it travels through regional Victoria.

The Future Harvest exhibition moved to Ballarat during May and will open at the Shepparton Science and Technology Centre on 5 June, the Mildura Alfred Deakin Centre on 10 July, Wodonga Civic Centre on 7 August, before moving to the Royal Melbourne Show from 17-27 September and finally to Scienceworks at Spotswood for the period 16 October 1998 - 18 April 1999.

School group bookings for regional venues can be made on 1800 687 386. People can also visit the exhibition's website, http://www.mov.vic.gov.au/FutureHarvest

Have you got a lifetime

By Mark Coffey, Manager Technical Services, Greening Australia Victoria

Large-scale plantings are achievable using mechanical planters.

Research Results

When it comes to land management, sound revegetation practices provide clear benefits for crop or animal protection, soil erosion, salinity control, timber production and increase the natural biodiversity of the farm.

By developments through the forestry and horticultural industries, and subsequent refinements by land managers and nurseries, the farming community has a far more comprehensive range of options available to tackle large-scale planting projects.

Plantings of tens of thousands of trees per day are now within easier reach. Granted, it requires some effort in planning and an eagle eye on some important details but, by looking after the essentials, your planting plan need not take you until retirement to implement.

Lets look at these essentials.

Paul Spiers from the Archies Creek Revegetation Group uses the Youman Planter, capable of planting thousands of forestry tubes or bare-rooted stock per day in all sorts of terrain.

Species Selection and Plantation Design

Choosing the right plant, for the right site, for the right reason.

If you are planting for nature conservation, select species from your local plants, grown from locally-collected seed. If timber production is the objective, take some time to obtain advice from someone with local experience and a sound knowledge of the market potential of the end product. Trees are often bred for the purpose of timber production so, if this is your aim, ensure the stock you buy has been genetically chosen for those timber traits.

The design of a scheme will need to focus on the 'problem'. For example, if the aim is for groundwater uptake, then plant density and positioning at points where the trees can get access to or intercept groundwater is important.

The Planting Stock

There have been some important design improvements in potting systems for revegetation stock. While the standard 'forestry tube' is still very popular, compact trays or 'cells' such as Hyco or Lannan potting systems are proving to be superior in both cost and effectiveness, provided due care is taken with growing and handling.

These systems use less growing media (30 to 80cc in comparison to 200cc for a forest tube). Some also have features which guard against root distortion often caused by container growing. The price of these vary depending on species and the quantities required from around 35 to 75 cents per plant.

Open or bare-rooted stock is now also more commonly available and is proving very economical. The plant is 'lifted' from a nursery plot and freighted to the property in moist packing, but must be used without delay or they could be set back by dry site conditions. Prices range from 25 to 60 cents each.

The Site

Weed spraying - Do it early, Do it often! Trees are no different to any crop - allow weeds to compete and you will have reduced growth and plant losses.

To grow, plants require water, light, space and nutrients. Weeds use water, light, space and nutrients, making them the main culprit for failed revegetation projects. (rabbits come a close second). Weed control well in advance of planting will conserve moisture deep into the soil profile, and therefore assist in giving seedlings a good start in life.

The choice of mechanical or chemical control methods will be dictated by the weed species, soil type and site access. It is important to control weeds when actively growing.

If your weed control program is only in the winter or spring prior to planting, summer weeds present will not only re-establish, but they are most likely to thrive because of the reduced competition. As a rule of thumb, 1m clearance around each plant for the first two years will see the plant become well established.

Timing

There is often debate about the best time to plant. A pattern is emerging in south-eastern Australia as to optimum planting times. Generally, provided there are reasonable winter rains, good results are achieved in June to July on the free-draining soils of the low rainfall areas, August to early October in medium rainfall areas and October to as late as mid December in high rainfall areas or where irrigation is available.

e to revegetate your farm

Compact trays or 'cells' such as Hyco or Lannan potting systems are proving to be superior in both cost and effectiveness compared to conventional forestry tubes.

Ground Preparation

Ripping will be a site by site consideration. It is justified where deep permeation of water is required or there are reasons to encourage root stability at depth in the soil profile. Ripping should be done some months in advance so that large air voids in the soil are able to close.

Cultivation with disks, power harrows or hoe may be required if the soil is not naturally friable. The purpose of tilth is to provide sufficient fine soil to 'close' the plant root system in when planting.

Using Mechanical Planting Options

Various types of planting machinery can be used with the benefit of rapid planting of hundreds to tens of thousands. Most machines have some similar features such as a ripper or agro-plough to create a fracture in the soil, a plough to cleft open a planting hollow and a set of press-wheels to firm the plant into place.

Some have an adjustable scalping blade to plant into continuous depression. This feature is invaluable in the deeper sands where water harvesting is important. The scalp also removes a layer of weed-seed baring topsoil negating the need for herbicide.

Automatic water and fertiliser dosing is available on some models.

When mechanically planting trees and shrubs, some basic practices should be followed. Water the trees thoroughly before planting. Avoid planting stock which is under stress.

Plant the stock to a depth so there are no roots or potting media exposed to the air. (More plants die because they are planted too shallow rather than too deep.) Apply enough water to settle the loose soil around the root system (roots will not grow into air voids).

Guarding

Guarding can be expensive and may be the most time consuming part of the project. A guard per se is not essential to plant growth, it simply affords some protection as a plant establishes. Guards are justified in situations where young plants need protection from extreme elements, particularly hot or cold high winds or where rabbits or hares are present. They are also useful in preventing herbicide spray drift onto plants.

The use of milk carton sleeves is popular and provides an inexpensive means of protecting the young plant. They also have the practical advantage of acting as a reservoir for holding water when hand watering.

After care

It's back to weeds and rabbits, we're afraid.

Some supplementary watering may be required. However, if you do have weeds, your time will be better spent controlling them than watering. Rabbit or other animal damage may occur but must be dealt with early. Insect attack may cause concern at certain times of the year. You will need to evaluate whether the plants can withstand a level of damage prior to undertaking any chemical means of control.

How do I get hold of a mechanical planter?

Greening Australia, through the Alcoa Landcare Revegetation Assistance program, have a number of mechanical planters and direct seeding machines available to assist you in large-scale planting projects. For more information, contact Jim Robinson on (03) 9457 3024 or e-mail gavic@vicnet.net.au

Ian Taylor of 'Warrambeen', uses the GAV/Alcoa Bush Planter, a converted vegie planter capable of planting thousands of trees a day.

WEED ALERT: *Silvergrass*

Research Results

Silvergrass, or sand fescue (*Vulpia fasciculata*), is a common weed of crops and pastures throughout southern Australia. It is commonly found on sandy soils and is well adapted to low fertility conditions.

The weed is highly tolerant of the main herbicide groups making it very difficult to control. It also acts as a host for a wide range of pathogens causing root diseases in cereals.

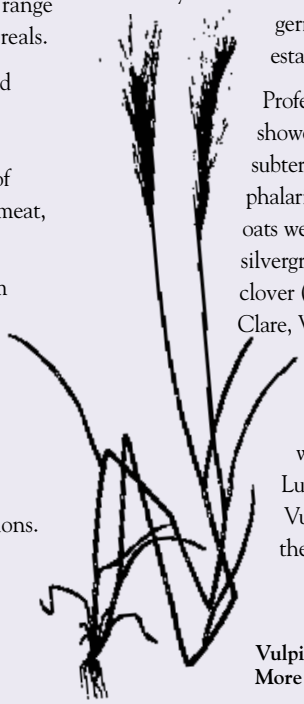
Silvergrass is unpalatable to livestock and has a hard, sharp-pointed callus at the base of the seed which readily penetrates the skin, mouth and hooves of sheep, causing irritation and damage to meat, wool and hides.

Stuart Castricum, a meat processor from Castricum Brothers in Melbourne, said silvergrass has damaging long and short-term effects on the meat processing industry.

"Animals with infested skins cause handling problems for process workers resulting in cuts, lacerations and infections. Silvergrass also penetrates leather pelts, meat carcasses and the internal organs of sheep," he said.

Recent research by Professor Jim Pratley from the Farrer Centre for Conservation Farming at Charles Sturt University has shown that silvergrass is allelopathic- it produces chemicals which act like herbicides to its competitors. This can be an especially significant problem when large amounts of carryover material are present at germination and establishment in autumn.

Professor Pratley's research showed that cocksfoot, subterranean clover (Trikkala), phalaris, canola, medics and oats were relatively tolerant to silvergrass toxins. Subterranean clover (Seaton Park, Karridale, Clare, Woogenellup, Junee), field peas and wheat (Ford, Darter, Dollarbird, Rosella) were relatively susceptible. Lupins, wheat (Janz, Vulcan) and barley were the most affected.



Vulpia fasciculata, *known as silvergrass or sand fescue from* More Crop Weeds By M.R. *Moerkerk and* A.G. *Barnett.*

The findings of the research suggest that the choice of species and cultivar may be a valuable management option for reducing the effect of *Vulpia* residues.

Professor Pratley said the best-bet options for managing silvergrass include:

- reducing viable seed production;
- minimising the carryover of dry material from one season to the next;
- eliminating as much of the population as possible at the start of the season;
- raising soil fertility; and
- encouraging a competitive population of desirable species.

To reduce the impact of silvergrass toxins, the amount of carryover dry material should be minimised into the sowing period, particularly where the break of season is close to sowing time. The material can be burnt or incorporated. Incorporation should be done at least three weeks before sowing to allow time for the toxins to break down, but it is a less favourable option in areas where soil erosion is a particular hazard.

Rid-a-Rabbit

Woof! No more bunnies!

A new Australian invention is designed to help farmers beat the rabbit problem in an easy, safe and cost-effective manner.

Using only LP gas, the operator releases a charge of gas down the burrow and ignites it with an electronic probe. The ignition of the gas produces a rush of hot air or bleve through the burrow and burns up all the oxygen.

The rabbits in the burrows die within 45 seconds to two minutes. An autopsy performed by the University of Melbourne Veterinary Science Department following trials of the device showed cause of death to be primarily from hypoxia (that is, a sudden loss of oxygen.)

The small portable unit makes access to difficult sites, such as under fences, trees or rocky areas very easy. Using LP gas makes the system one of the quickest, safest and most cost-effective rabbit control mechanisms available.

In summary, Rid-a-Rabbit:

- kills rabbits quickly and humanely;
- has no effect on the operator;
- is environmentally friendly as it does not affect other birds of prey or other animals such as dogs;
- is safer to use than other fumigation methods;
- is portable; and
- cost-effective at about two cents a hole.

Some feedback from the users . . .
Peter Cook of Yanac saw the portability of the unit a big plus. "Eighty percent of my rabbits have been killed, and I will keep using the Rid-a-Rabbit unit until they are all gone."

Ian Lang of Barongarook, near Colac, is a rabbiting contractor who has used the unit for over eight months. "One transect count of 134 rabbits was reduced to seven after two applications of the Rid-a-Rabbit unit."

For more information contact: John Hardiman, Rid-a-Rabbit Marketing, on (03) 9841 4507 or 018 533 432 or drop a line to PO Box 423, Bulleen, Victoria 3105.

Fungi - the root cause of tree success

Tiny fungi living around the roots of native trees and shrubs are probably critical to the success of farm revegetation programs. This is the finding of a recent study by CSIRO Forestry and Forest Products.

CSIRO scientists Dr Inez Tommerup and Dr Neale Bougher have completed the first major investigation of fungi in the West Australian wheatbelt. More than 90% of the WA wheatbelt land has been cleared for cropping. The investigation took place in some remnant patches of woodland.

The scientists found that the roots of native plants are only sparsely distributed through woodland soil, but mycelia (threads) from mycorrhizal fungi are widespread.

According to Dr Tommerup, the findings suggest the presence of the right fungi can be critical to the success of farm revegetation programs.

"The special root association formed between vegetation and a mycorrhizal fungi is called a mycorrhiza. In a mycorrhiza, the plant gives the fungus sugars derived from photosynthesis and the fungus gives the plants mineral nutrients," Dr Tommerup said.

"The fungi extensively explore the soil and, for many plants, it is the fungi rather than the roots which do most of the nutrient gathering from soil. Hence the fungi greatly enhance the plant's capacity to take up nutrients from soil. The fungi therefore affect plant survival and health. Because they contribute mineral nutrients to the plants they are also assisting in the plant's capacity to produce flowers and seeds."

Dr Tommerup said the association between plants and fungi was often not recognised as the fungi function underground. The only obvious part of their life cycles is when they fruit, forming mushrooms, toadstools, truffles or cup-fungi.

According to Dr Tommerup fungi also have a key role in soil organic matter and soil nutrient cycling processes such as litter decomposition.

Research Results

"The fungi involved in woody plant decomposition are called saprophytes and are related to the mycorrhizal fungi. Saprophytes help make the nutrients available to plants in two ways. One is by breaking down wood and litter in the soil and on the surface. The other is by transporting mineral nutrients from the soil into decomposing litter. The litter is an important component of soil organic matter."

"Fungi contribute directly to soil structure by binding soil particles and through soil organic matter processes. Fungi are essential to soil health and, therefore, to ecosystem sustainability. They are essential ecological elements which should be considered in ecosystem and remnant management and restoration."

Dr Tommerup and Dr Bougher are confident that the knowledge now available on wheatbelt soil fungi can be used more widely in the regeneration of degraded woodlands and in 'vegetation reconstruction' tree and shrub planting to create woodland on cleared areas.

"The ever-growing problems of rising watertables and soil salination leave no doubt about the need to increase tree and shrub cover. But this is currently hard to achieve with many of the remnant patches of bush not regenerating and tree planting having low success rates," Dr Tommerup said.

The researchers are now developing a method for introducing suitable sets of fungi when local trees and shrubs are planted on farmland. The technique involves raising seedlings with a wide diversity of ectomycorrhizal fungi from woodland areas where the chosen plant species grow naturally. When the seedlings are planted in an area being revegetated, they take the fungi with them.

More information is available from Dr Inez Tommerup on (08) 9333 6674.

Dunrobin Rabbits in the Spotlight

The Dunrobin Landcare Group has just completed a successful rabbit eradication program with a novel approach to wind up the Rabbit Buster initiatives.

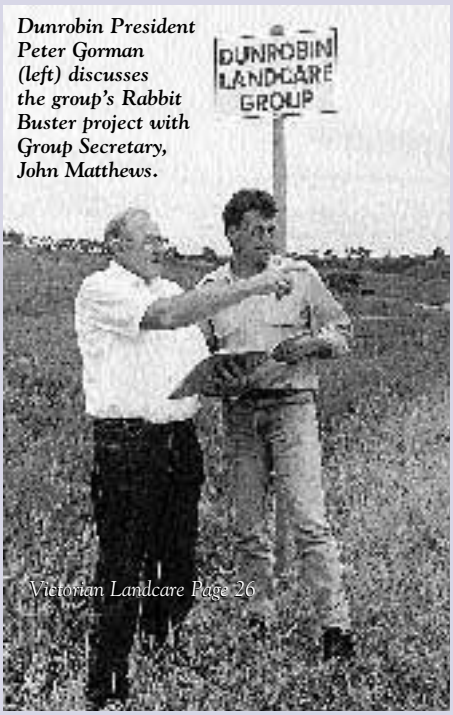
Chairman of the group, Peter Gorman, said a combined spotlight night was held recently, organised by the group's secretary, John Matthews.

A large number of landholders pooled their resources, greyhounds and kids to round up as many rabbits as possible over a wide area.

Prizes were allocated to the various teams from the remaining Rabbit Buster Funds and the night concluded at the Dunrobin Hall with refreshments.

The spotlight night was part of the group's effort to work co-operatively. It highlighted the need for all landholders to be continually aware of the devastation that large numbers of rabbits cause to the environment and to the rural economy.

For more information contact the Dunrobin Landcare Group President, Peter Gorman, on (03) 5581 1381.



Dunrobin President Peter Gorman (left) discusses the group's Rabbit Buster project with Group Secretary, John Matthews.

Catch-up: Around the CMAs

Over 100 landcarers attended a 'Listening to Landcare' forum held by the Glenelg-Hopkins CMA in April. The forum was designed to hear landcare concerns which are now being addressed by the board.

Landcare and other interest groups in the Corangamite region have recently been recipients of $270,000 to carry out streamside management works in line with the Corangamite CMA's Water Resources Program. A regional Landcare network is being established to assist the CMA and DNRE in their priorities and directions.

Landcarers from the Shepparton Irrigation Region were recently treated to a tour of the dryland country at the upper reaches of the Goulburn River by the Goulburn-Broken CMA. There they saw work to restore upper catchment waterways. The busload of 42 was joined by a similar number from the upper catchment which was a great chance to network and learn more about the particular Landcare challenges facing the hill country.

Landcare groups will benefit from the recent decision by North Central CMA to develop a community-friendly structure to implement its Regional Catchment Strategy. After an extensive community consultation, the Authority has established four implementation committees: one for each of the river catchments. The structure will ensure greater communication with community groups, especially landcare groups. A Bushcare facilitator has also been appointed and will start in May to develop projects to enhance protection of remnant vegetation and increase revegetation projects.

Broadening the representation of interest groups such as Landcare groups in its management structure is the aim of a discussion paper on a future advisory structure recently issued by the West Gippsland CMA.

Landcare groups are represented on the catchment implementation committees of the Port Phillip Catchment and Land Protection Board as it develops its catchment action programs in four of its five catchments (Yarra's action plan is already complete).

The plans are being developed by the committees for the Werribee, Maribyrnong, Dandenong and Western Port catchments. For further information, contact Graeme Jeffrey on (03) 9785 0182.

Over the next few months, Mallee CMA will be surveying landcare groups in its region to find out how the Authority can help them in their work. Areas in which the CMA anticipates it could assist include providing a contact point for groups, budget preparation for NHT projects, helping with administration and alleviating group isolation.

The co-ordination of Landcare programs to improve water quality and reduce land degradation will be improved through implementation committees currently being established by the North East CMA. The work of these committees is to implement the regional catchment strategies.

Wimmera CMA has established four committees to implement its regional catchment strategy: land, water, biodiversity and sustainable regional development. Matters being addressed include salinity, river frontages, waterways restoration and roadsides management. A demographic study of the region is also being undertaken as part of the recently released Wimmera Economic Perspective.

East Gippsland CMA has been undertaking major works programs on waterway management and bank protection on the lower reaches of the Snowy and Tambo Rivers and improving vegetation in the upper parts of the catchment. It has also been assisting landowners and agencies and other organisations to cope with the severe conditions that exist in the region as part of the drought.

The successful networking of landcare groups and individuals in catchment regions will be the subject of a report to Government in November. The Minister for Conservation and Land Management, Mrs Marie Tehan, has requested the report from the Victorian Catchment Management Council which published a major landcare report, *Towards 2000: Caring for Landcare in Victoria*, last year.

Pete the platypus

Teaching adults about river health you might think hard enough.

But teaching children about it... now there's a tall order.

Nonetheless, the value of children as conduits of messages to their parents is well understood - at least by children! - and it is something the new catchment management bodies are exploring in their community awareness activities.

West Gippsland Catchment Management Authority has shown particular imagination in conceiving a catchment health club for kids.

The Pete the Platypus Club, an idea originating in the former Lake Wellington Rivers Authority, has found a niche in the hearts of the youngsters of the region.

"The platypus is an emotive animal," explained Ross Scott the Authority's Lake Wellington Rivers Manager.

"Its unusual combination of features provokes a certain affection which we can use to build a bridge to help people become more aware of rivers and their health."

Pete, complete with sun cap and thongs, was introduced to West Gippsland children via the pages of the Authority's *Meanders* newsletter. The newsletter devoted a whole page to capturing 'catchment kids' with an invitation to colour in Pete to be part of his club.

The idea was an instant hit.

"We sent out a notice to all the schools in the catchment with a copy of the newsletter and received requests back for between 25 and 300 copies per school," said Authority Corporate Support Manager, John Slayford.

The newsletter was also strategically dropped off at doctors' and dentists' surgeries places where people congregate.

As well as the usual children's page attractions, colour-ins and other activities the page also subtly educates its young readers in catchment health.

Readers are encouraged to watch for platypi in their local creek or river; the page includes broader education about local vegetation such as the swamp paperbark or river redgum; or talks about the meaning of riparian vegetation in a way children - and adults? can understand.

Says Pete: "The boffins say the proper name is 'riparian vegetation'. Very toffy.. me and the mates just call it trees and shrubs and things along the riverbank."

"If we don't have riparian vegetation, the smorgasbord gets a bit thin and, geez, it gets hard to see in the river because all the soil from the river banks ends up in the river. 'Erosion' the boffins call it."

And so Pete's patter goes.

Included in the newsletter is a club membership form requesting such details as the name of the creek or river nearest to your home as well as your birthday. Club members receive a certificate, as well as a birthday card on the big day and they can also can collect a 'living present' from the Authority's own indigenous Cowwarr Nursery to plant in their garden or along their favourite stretch of river.

This information is relayed for processing to 'Captain Slayford' at the Authority who, of course, is no relation whatsoever to the Authority's officer with the same surname.

"Pete appears in the local papers relaying important environmental messages as well," explained John.

The club appears to have heightened awareness of the importance of riparian zones among the children of the catchment. Some have sent the Authority photos of their own creek in various states of repair.

Targeted at primary school pupils, the club has also sparked an idea for a Platypus Conservancy on Traralgon Creek. Ross said the purpose would be to establish baseline information about the platypus population before a proposal to remove willows in the riparian zone was taken up.

"This would provide us with information about the impact of riparian vegetation on river health."

The authority is working with industry, the community and the tertiary education sector to try to give the project birth.

Perhaps Pete will build bridges here too.

ON THE SHELF- New Publications

Books

The Australian Farmer's Guide to the Internet

Ignore what they say in the computer store. Getting connected to the Internet can be a very frustrating experience. Here's an Internet Guide that has been written specifically for farmers. It gives basic information about how to get connected, examples of how some farmers use the Internet and a list of rural Internet Service Providers.

One of the book's best features is its directory of 250 web sites relevant to Australian farmers. Each site has a description of content and a rating of 'net appeal'. Purchasers of the book also get access to an on-line version of the site directory.

The guide is $25 + $6 postage from the Rural Industries R&D Corporation. Phone (02) 6272 4819.

The New Rural Industries A handbook for Farmers and Investors

If you're thinking of diversification this handbook provides a good start. It gives a 'warts and all' assessment of the strengths, weaknesses and opportunities and threats for 94 of Australia's smaller or emerging animal, aquaculture and plant industries.

It also provides an overview of the key success factors in the development of new industries, how to initiate your own market research and where to get advice or additional information.

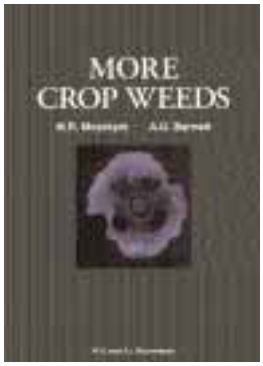
Each chapter has been researched and written by experienced 'experts' in the new industries or products.

The guide is $40 + $8 postage from the Rural Industries R&D Corporation. Phone (02) 6272 4819.

Crop Weeds and More Crop Weeds

The first step in controlling weeds is to identify them. Identifying weeds at the earliest possible stage means they can be controlled before they start to damage the crop. These two volumes are a straightforward guide to identifying crop weeds. Between them, 207 different weed species are covered.

The guides are full of quality colour photographs and line drawings to help with identifying important weed seedlings and mature plants. *More Crop Weeds* also includes keys to both narrow and broad-leafed weeds.



Crop Weeds is $65 and *More Crop Weeds* is $55. They are available from VIDA Book Sales on (03) 5362 2111. A postage fee of $10 applies.

Philippine - Australia link established

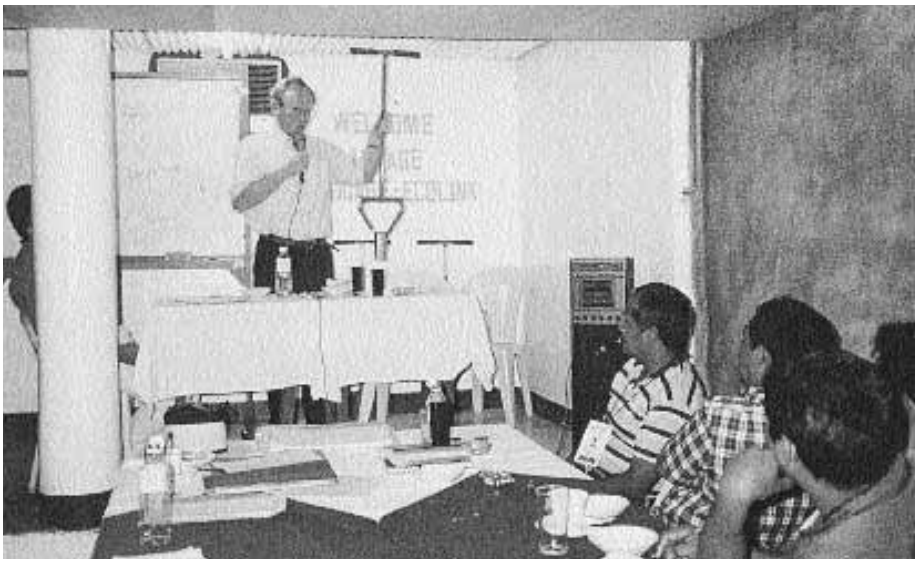
David Morgan, former external relations manager with Rio Tinto Exploration, has helped establish a link between Landcare and a community group, Ecolink on the southern island island of Mindanao in the Philippines.

Through his role with Rio Tinto and the contacts he has established, David introduced the concepts of Landcare to the groups in the Philippines. During his last visit in January, David presented the group with three Hamilton Tree Planters, donated by the manufacturer, Keith Cumming.

The planters will help Ecolink in revegetating over-logged areas.

Head of Ecolink, Roger Montealto commented at the presentation, that Australia had, in the past, assisted with some road building and irrigation projects, and hoped that this new link would lead to further initiatives by both governments in the rehabilitation of areas devastated by over-logging.

David Morgan presents Head of Ecolink, Roger Montealto with the Hamilton Tree Planters to help them with their work on the southern island of Mindanao in the Philippines



David spoke about Landcare in Australia and welcomed the links established between the Philippines group and those in Australia. "Landcare groups in Victoria and Ecolink can learn from each others' experiences in revegetation projects, and hopefully, through this budding partnership improve the environment in both communities".

After career spanning 20 years with the Rio Tinto Group, David has left to pursue a career in consulting to companies, communities and governments on finding Win/Win solutions to land management issues. He said "it had been a wonderfully rewarding career with Rio Tinto because they had always had the community at heart".

New Zealand Land

by Don Ross, National Co-ordinator

New Zealand and Australia may have formed a united land mass aeons ago, but their land forms, uses and management have followed very different paths since then.

Now, on the eve of the 21st century, there is real potential for the landcare movement to bring the two land masses together again in a non-physical but quite far-reaching way. Even more exciting is the possibility, recognised by the 1997 Australian Landcare Conference, that by encouraging communities into environmental stewardship, landcare could influence and unite groups all round the world.

New Zealand landcare, as a formal structure, is quite recent and owes a lot to the Australian experience.

Since the mid 1980s, New Zealand landuser groups have watched Australia's developing landcare concept with a great deal of interest and enthusiasm, although our landuse and management problems are not on the same scale. For example, rabbits are high profile in New Zealand but, overall, only significantly affect about 300,000ha - one paddock in Central Australia!!

Other problems such as tree decline, water quality and quantity, depletion, degradation, and weeds may each be a focus for a landgroup somewhere in New Zealand, but as local issues, not extensive problems as in Australia.

What really spurred New Zealanders into landcare was the *Resource Management Act 1991*.

This Act won some international acclaim as the first major environmental legislation in the world. Its aim was to bring all environmental legislation under one umbrella thus streamlining innumerable rules and regulations into something of a one-stop-shop.

The Act was also important because, for the first time, the concept of sustainability was enshrined in New Zealand legislation, as was the concept of 'community involvement' the Act demands consultation with communities over planning, landuse and land management.

This is where landcare and the Landcare Trust came in.

As in Australia, the initial push for a NZ Landcare Trust came from landusers themselves, particularly members of production and conservation groups which both had an 'advocacy warrior' tradition. Some New Zealand communities had been working on soil conservation, weed and pest issues for many years but, in 1996, on the recommendation of landuser groups, Government took a proactive approach and funded the establishment of the New Zealand Landcare Trust.

Some regional councils were already encouraging landcare groups, but the Trust's mandate was to co-ordinate and extend the concept nationally. Australian landcare had already proved the concept of co-ordinators helping communities establish their own landcare groups and then supporting the groups to become self-sustaining, especially by working alongside them, helping them focus, develop skills and access information.

The Trust is administered by a Board of Trustees representing farmer groups, Maori landholders, conservation and recreation groups. Significantly, the Trust sits outside government, an approach I personally support as it puts accountability with the community. While not downplaying the huge and effective involvement of government agencies in Australia, what impresses me most is the impact of non-government groups like Greening Australia, National and State Farmer Federations, Landcare Australia and the Victorian Landcare Foundation. Landcare enthusiasts such as Wellington Lee, Alex Arbuthnot, Lindy Moffat, and Rob Youl of the Victorian Landcare Foundation, David Millsom of Greening Australia, or Landcare Australia's Brian Scarsbrick (at the risk of naming few) confirm for me not only that landcare in Australia is alive and well, but also that the New Zealand Trust is on the right track with its community focus.

care Trust

With key strategic areas of education, support and co-ordination, the Trust acts as a linchpin for an informally-structured network of groups, planners and resource providers.

Part of this linchpin role is that of information broker. The Trust can help groups access a wealth of scientific information and practical expertise that is, as yet, virtually untapped.

As a result, existing research can be put to maximum use and landusers can have input into future research. This is important because Government, as the major research funder, is looking critically at how effective its research dollars are in delivering relevant findings to end-users.

Joint ventures are already taking place. For example, a group of arable farmers in Methven in the South Island is working alongside the Crop & Food Research Institute and Lincoln University field testing a soil quality monitoring kit. The group is helping refine the kit, which has been specifically adapted to New Zealand conditions, before its official release.

So far, the New Zealand landcare movement has been more enthusiastically received and taken up than anyone foresaw.

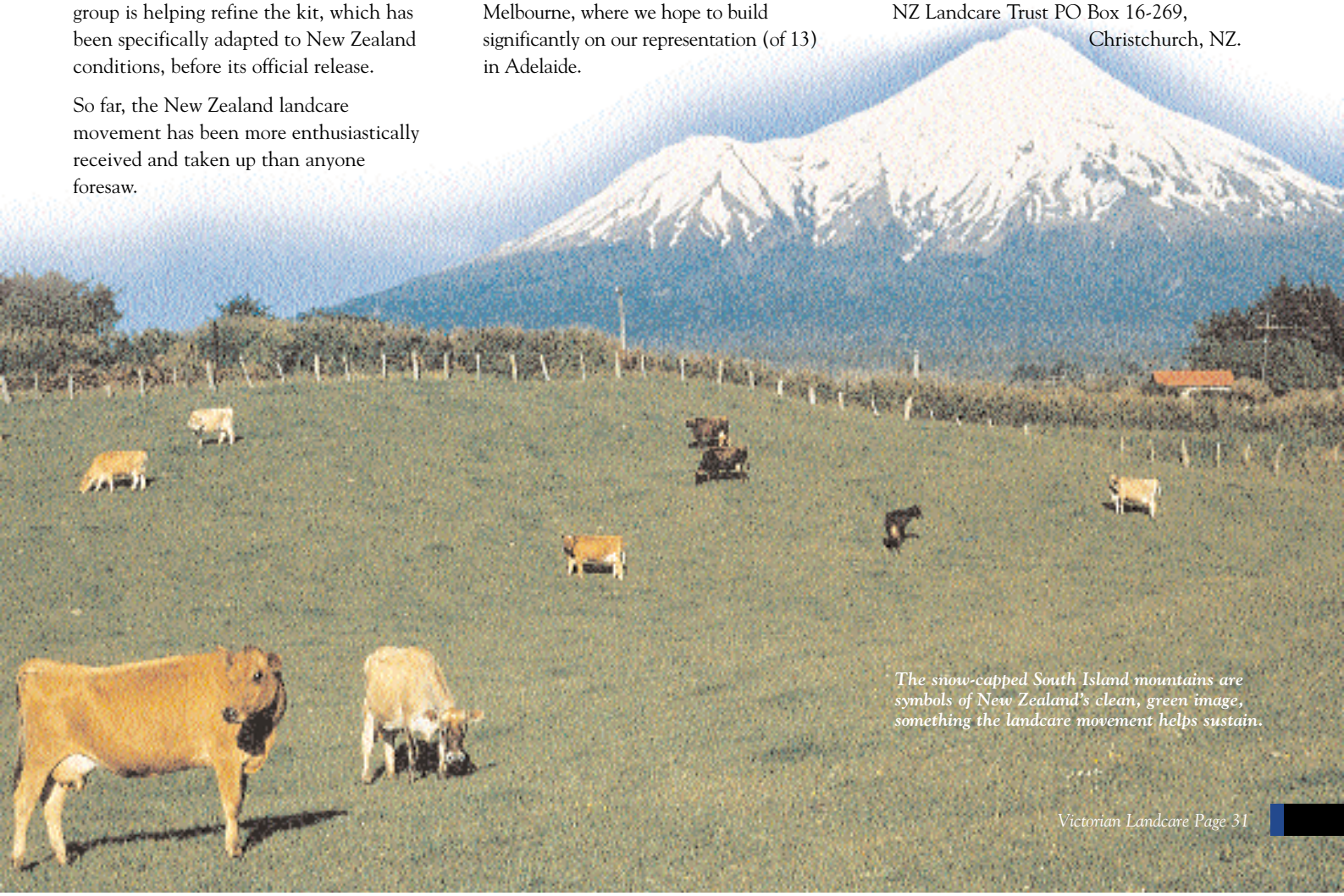
Enjoying working in such beautiful surroundings, some landcare groups are looking at eco-tourism to help economic sustainability.

Some 200 groups are now operating in New Zealand not bad on a per capita basis (and less than one year of formal landcare structures) given there is no direct works funding available.

We look forward to sharing some of our experience with our Australian counterparts at the year 2000 international conference in Melbourne, where we hope to build significantly on our representation (of 13) in Adelaide.

The enthusiasm and commitment we derive from being alongside and learning from our Australian counterparts will really help landcare both in New Zealand and internationally.

For more information on Landcare in NZ, contact Don Ross via:
E-mail:wdr@xtra.co.nz or write to
NZ Landcare Trust PO Box 16-269,
Christchurch, NZ.



The snow-capped South Island mountains are symbols of New Zealand's clean, green image, something the landcare movement helps sustain.