Winter 2001

Victorian andcare & catchment Management

SSUE 20

A carbon sink for Korumburra

Growing a seed orchard

Glenelg-Hopkins feature

WEEDMAN to the rescue

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Cover photograph: Young native trees at Korumburra

by Rawdon Sthradher

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From the EDITORS

In this issue we feature several stories on greenhouse. Without a doubt climate change is one of the most worrying issues facing land managers today. We look at the work of several farmers who are tackling large-scale revegetation projects to sink carbon and repair land degradation. The saying think globally act locally comes to mind.

Landfest 2001

It is always a delight to report on Victoria's major Landcare festival – *Landfest*.

Landfest began in 1997 and each year it celebrates an important environmental theme – from El Nino, to Living Land Living Water and this year – Fashions in the Field.

The Fashions in the Field theme was carried through in a form guide for the Revegetation Stakes – a phantom race ably called by comedian John Walker. *Firestick Farming*, *Gold Rush*, and *European Settlement* all began well,



but were overtaken by strong performers like Blackberry Boy and Cootamundra Kid. At the end it was down to a photo finish between Natural Regeneration and My Sweet Sugar Gum, followed gallantly by Landcare Lass, with Wholesale Clearing finishing last of all!

Workshops ran throughout the day to provide even more information for the punters. Jack Craw's talk on potentially fatal fashions – environmental weeds and garden escapees – proved very popular.

Added to this there were 65 different stalls, a host of demonstrations,

great activities for children, groovy music and delicious local produce. The many, many organisers and contributors to *Landfest* are to be congratulated for another very successful festival. If you haven't been to *Landfest* yet we suggest you put it in your diary for next year. For more information contact the Victorian Landcare Centre on (03) 5345 2200.

Please keep your stories and letters coming. We are always interested in hearing from our readers.

Lyall Grey, Jo Safstrom and Carrie Tiffany

High quality grapes, environmentally friendly By Irene Grant

Indigo Wines are dedicated to producing high quality wine grapes but the company is equally determined to ensure that the local environment does not suffer in the process.

To help the company achieve this aim, vineyard manager Guy Rayner contacted NRE for assistance in developing a whole farm plan which would create a balance between the environment and horticultural practices.

"We have a real desire to create an environment that is friendly to surrounding flora and fauna as well as growing the best grapes," Guy Rayner said.

"For us whole farm planning is an important management tool which contributes to sound decisions in the day-to-day management and the long-term sustainability of the enterprise." NRE extension officer Martin Revrenna is helping Indigo Wines (the property is located at Everton Upper, 20 kilometres from Wangaratta) develop their whole farm plan.

The property has extensive areas of native vegetation and significant wildlife habitat on Granite Hill and along the Hodgsons Creek. A threatened plant species, silver tea-tree, has been found growing on part of the property.

The plan looks at issues such as the management of remnant native vegetation, wildlife habitat, gully erosion, water quality, recharge and salinity, pest plant and animal control.

Martin Revrenna said the plan is important to Indigo Wines, as they are keen to demonstrate that it is possible to

Martin Revrenna and Guy Rayner check the progress of the whole farm plan at Indigo Wines.

keep a balance between environmental and horticultural practices.

"The project managers expressed a strong desire to develop the property as a showcase of best environmental practice for the winegrape industry and we are keen to support that approach."



Caring for remnants in the North East

By Margrit Beemster



"What I like about it is that it is so simple," said Norong Central farmer Tony Reeckman as we survey the seven-hectare section of forest along his property's boundary that he fenced out in 1999.

"You put the fence up and it does the regeneration all by itself."

Tony Reeckman is one of a hundred landholders across the North East region who have taken advantage of the Care of Remnant Incentive Scheme (CORIS). Funded by the Natural Heritage Trust and administered by the North East Catchment Management Authority, the scheme provides financial assistance for landholders wishing to fence off and manage remnant vegetation on their properties.

So far 1450 hectares have been fenced off under the Care of Remnant Incentive Scheme which is now in its fourth year.

"I probably would have fenced the forest off at some stage but would have waited until I had enough money to do it," said Tony who was reimbursed for most of the \$2000 he spent on fencing materials.

"It took me about a week's solid work to put the fence up but I'm very pleased I did. It's a really nice place on the farm to walk through."

Since Tony took over the family farm ten years ago, he has planted more than 10,000 trees in wildlife corridors and shelter belts, and fenced off remnant stands of murray pines. His corridors link up with the remnant grey box forest, half of which was fenced off by his father 30 years ago.



CORIS project manager Jim Blackney said the fencing off would encourage the return of lots of plants not around any more and protect some of the rarer species, such as buloke, a casuarina.

"The grey box plains is one of the rarer types of bush, including box ironbark and riverine grassy forests targeted under the scheme.

"Much of our lower more fertile country has been cleared for agriculture over the last 150 years. If there's any indigenous vegetation left in those areas, we would like to work with landholders to preserve it. In 10, 20 or 40 years time a lot of these pockets will disappear unless we do something now to allow natural regeneration to take place."

Jim Blackney estimates that at the end of five years, 2000 hectares of remnant vegetation will have been protected by CORIS and around 250 landholders involved.

For further information about CORIS contact Jim Blackney on (03) 5728 6620.

Tony Reeckman with grey box seedlings that have regenerated since he fenced off his grey box plains forest.





From Istanbul to Wandiligong

A tourist's view of Turkey.

By Greg Smith

Wandiligong nestles high up in the Ovens River catchment in NE Victoria, just beyond the very popular tourist town, Bright. Last spring I enjoyed another weekend at this jewel in the foothills of the Victorian alpine country.

On a clear spring morning it is hard to imagine anywhere more tranquil and beautiful than Wandiligong. With the sunlight streaming over the towering hills and lighting a cloudless, blue sky, the landscape is verdant green with lush pastures blending into tree-covered mountain slopes.

There are splashes of vivid colour from the vast array of spring blossoms. The air is still, clear and pure with a touch of the overnight chill. The silence is broken only by the rush of cool, clean water tumbling down rocky watercourses – and the raucous sounds of the abundant birdlife.

By contrast, the previous year I had been touring Europe. Europe and Wandiligong are poles apart in many ways – probably none more so than the fascinating city of Istanbul, which teems with people (population over 10 million) and all forms of pollution.

Sadly, the magnificent vistas that should showcase the grand palaces and mosques that line the majestic Bosphorus (the narrow strait of water that divides the city and links the Black Sea to the Mediterranean) were blanketed by a depressing shroud of heavily polluted air. Visibility was constantly limited to about two kilometres. Clear skies seem to be something of the past throughout Europe. Even in rural (and fairly remote) areas of countries such as England, Ireland, Belgium. France, Spain and Turkey the views are invariably hidden by the very hazy, polluted skies – heat hazes, according to the local inhabitants and travel guides!

Some other obvious observations on environmental issues that confirm that Australia is, environmentally, still a lucky country include:

- Water quality. It is now very much standard practice overseas to rely on bought, bottled water, rather than trusting local water supplies.
- Wildlife. Destruction of habitat and hunting seem to have irretrievably decimated the wildlife populations in Europe. Animals are almost nonexistent in the wild, apart from the odd rabbit and squirrel. And there is very little evidence of birds – none of the warbling and chirping that is still very much part of the Australian landscape. Sure, there are pigeons, sparrows and seagulls in some places; but no diversity of species, and in many areas, no sign of birds at all.

The take-home message from Europe to Wandiligong is that we are still very much endowed with magnificent natural resources in Australia that need to be protected and enhanced. How can we best capitalise on what we still have, and that many overseas countries have already lost?



View from a farmhouse in North East Victoria

Farm\$mart can certainly help – particularly via the Farm\$mart Series B workshops that focus on natural resource management.

Clearly Landcare has achieved an enormous amount of on-ground work and it continues to mobilise a wide cross-section of the Victorian rural community. A recent survey by Charles Sturt University reports that where a Landcare group operates, 46% of properties have a Landcare member. It is estimated that about 27,500 members belong to the 890 Victorian Landcare groups.

There is now a keen interest in how Landcare might move beyond the very obvious and significant on-ground works. The network of almost 900 groups and 30,000 members can have an incredible influence on community and economic development, and consequently a substantial impact on regional development and catchment management in Victoria.

Greg Smith is the Victorian Farmers Federation Farm\$mart Co-ordinator.

Senegal tea? NO THANKS!

Senegal tea (*Gymnocoronis spilanthoides*) is a perennial, semi-aquatic herb native to Mexico and South America. It grows in wetland communities in still or flowing water as well as in wet marshy soils and at water margins.

Senegal tea is a potentially serious waterweed that has recently been found for the first time in Victoria. It was introduced to Australia in the mid 1970s from India as an aquarium plant. Later Senegal tea infestations were found in NSW, Queensland and Tasmania. It is not a declared noxious weed in Victoria but it is important to prevent it from establishing, as it is invasive and very difficult to control.

Impact

Senegal tea is considered an aggressive and invasive species. Adult plants have a growth rate of 15 centimetres a week in fertile conditions. It is tolerant to shade, frost and poor drainage and intolerant to drought. It forms dense floating mats which can quickly cover waterbodies, excluding other life forms, as well as impeding water flow, navigation and recreational activities.

Description

Senegal tea has a variety of forms. It can produce runners in water or mud, and floating stems up to 2.5 metres in height, or it can grow as round bushes. Plant stems are usually 5-10 millimetres in diameter when young, increasing up to 20 millimetres with age. Young stems are often angled, with several ridges running down the length of the stem, but they become more or less rounded as they mature. Stems normally scramble, branch and root at the nodes, forming an intertwining mat. Larger stems are hollow between the nodes and mats are buoyant in water.

Fibrous roots can produce on any part of the stems when they immersed in water. Erect stems are produced prior to flowering, growing to a height of 1.5 metres or more. The soft leaves are 5-20 centimetres in length, shiny dark green with serrated margins and the leaves are borne in opposite pairs.

Senegal tea is sold as an aquarium or ornamental water plant and can be spread through the dumping of fish tank contents into waterways.



By Lalith Gunasekera

Flowering commences in late spring or early summer and continues until falling temperatures prevent further growth. The flower heads are clustered together at the tips of the branches. Flowers are white. The seed is yellow-brown and ribbed.

Dispersal

Senegal tea can spread by vegetative fragmentation, by the production of new plants from the stem nodes or by seed. Stem fragments may be spread by water movement, deliberate plantings or by machinery. Fragments quickly develop roots and new stems when they come to rest, forming new colonies. Dispersal of seed is by water movement, or mud sticking to animals or machinery.

The most important method of spread in Australia is through cultivation and sale as an aquarium or ornamental water plant and through dumping of fish tank contents into waterways.

> The first naturalised infestation of Senegal tea was found in Lake Nagambie in December last year. Goulburn-Murray Water implemented an eradication campaign. Another infestation was reported by a landholder at Cranbourne South. This was a deliberate planting at the edge of a dam of plants purchased 4-5 years ago from a landscape nursery at Mornington.

If you find an infestation of Senegal tea, or would like further information, contact the Keith Turnbull Research Institute on (03) 9785 0111.



Growing a

Direct seeding has proven to be the most economical method for successfully establishing native vegetation in many parts of Victoria. As the demand for seed increases, Greening Australia's Alcoa Portland Regional Seedbank is working hard to make sure seed is available for landholders.

One of the Seedbank's challenges is to match farmer demand for understorey species' seed. The Friends of Pallister's Reserve have established one of the first seed orchards for understorey seed in Victoria.

Peter Carrucan, a Pallisters group member of the Understorey Seed Orchard Project which is supported by the Alcoa Landcare Program and Greening Australia, has provided a focal point for their efforts, and has helped supply seed to larger regional projects such as the Greater Glenelg Biolink Project.

"The idea of starting a seed orchard arose because of the success people were having with direct seeding," said Peter.

"Most of the understorey species in the district had been cleared, and seed sources for many species was limited."

Left: Peter Carrucan in the prickly tea tree plot.



Signage plays an important educational role.

Filling the seed gap

In 1995, the Pallisters group met Libby Fisher, the Greening Australia Alcoa Portland Regional Seedbank Manager, and discussed the seed orchard concept.

"At the time, Greening Western Australia had seed orchard sites up and running, and it was thought that such a facility in the south west would fill the gap in the supply of understorey plants' seed," Peter said.

The group set out a plan for a small area in the reserve and sought assistance from the Alcoa Landcare Project to fence the site to keep rabbits and hares away.

"After fencing, a bobcat scalped the top few inches of soil away to remove any weed seed (the area had once been under pasture species) and to remove some of the soil nutrients."

Many species of native grasses cannot cope with high nutrient loads, and removing some of the topsoil would resolve this problem.

"We set up various veggie garden sized plots and sowed different understorey species in each plot," Peter said.

The seed was sown very heavily to avoid weed establishment and to ensure a good germination of native seeds.

"The seed is harvested in the summer months and sent to the Portland Seedbank where it is treated, viability tested and stored correctly to ensure there can be no insect attack, and to minimise temperature fluctuations that could destroy or denature the seed," Peter said.

All of the seed is stored at the seedbank, and lists of available species are circulated to local Landcare groups. Most of the seed is on-sold to the wider community for direct seeding programs.

An educational resource

Peter sees the seed orchard project as an important educational resource for local schools and Landcare groups.

seed orchard

By Paul Crock

"The aim of the exercise certainly is to provide seed for different direct seeding projects and take the seed-collecting pressure off native stands of the species in question. However it is also to draw attention to the concern about degradation of understorey plants in remnant vegetation areas."

Interpretive signs and display boards will be erected to help visitors to the site learn about the species and provide a sample to assist with teaching plant identification.

"The seed orchard has been a great success, and members of the Friends of Pallister's Reserve look forward to developing the resource and increasing the number of species grown," said Peter.

For more information about the seed orchard project, contact Peter Carrucan on (03) 5562 6179, or Dave Warne at the Greening Australia Alcoa Portland Regional Seedbank on (03) 5521 7856.

Pallister's Reserve

Pallister's Reserve is located at Orford, about 30 kilometres north of Port Fairy in southwest Victoria.

The reserve was created in 1990, when the Trust for Nature, the Ross Trust, NRE and donations from local conservation and naturalist groups raised enough funds to purchase the 130-hectare property from Mr W Pallister. A further 124 hectares was purchased on the western boundary in 1992 to add to the reserve.

The reserve includes 130 hectares of native woodland containing swamp and manna gum, shining peppermint, blackwoods and a rich understorey of prickly tea tree, wattles, banksia, allocasuarina and sweet bursaria. The many swamps and wetlands throughout the property make the reserve an ideal place for waterbirds to nest and breed, including brolgas.

The old woolshed on the property has been converted into the group's headquarters and includes a number of beds to bunk down volunteers who require overnight or weekly accommodation. A shipping container donated by Portland Aluminium has been converted into a tool shed for the group.

The group holds regular meetings and working bees. On meeting days members do odd jobs and carry out bird and plant surveys. For more information about the reserve contact Peter Carrucan on (03) 5562 6179.

Direct seeding fact sheets

Alcoa World Alumina Australia and Greening Australia are producing a series of fact sheets designed to share the successes of direct seeding and other Landcare activities throughout the south-west of Victoria.

The fact sheets describe case studies of some of the best projects and

experiences in direct seeding and are available from the Greening Australia Alcoa Portland Regional Seedbank and Greening Australia's head office in Heidelberg.

For further information contact Dave Warne on (03) 5521 7856.

Greening Australia's Alcoa Regional Seedbank provides native tree seed for revegetation programs across Victoria.

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Carbon sinks for

Under the Greenhouse Project 11 landowners in the Bass catchment and the Rowsley Valley are revegetating over 100 hectares of non-productive farmland with indigenous and farm forestry plantings.

The majority of areas that have been revegetated under this project are unproductive farmland. This land was often in need of remedial action for problems such as erosion and topsoil loss. The revegetated areas have also helped to combat water quality problems in some catchments including many streamside plantings.

Wherever possible revegetation sites are linked to remnant vegetation in an effort to increase the overall size of native vegetation blocks. It is also an aim of the Greenhouse Project to extend habitat corridors in the landscape.

Building community interest

The Greenhouse Project has also endeavoured to build community interest and ownership of the projects by encouraging the landowners to involve community groups in planting days and by promoting the overall benefit to the community and the environment of the Greenhouse Project.

Some landholders have been involved in more than one revegetation project and others have been inspired to replant further areas on their own initiative or to participate in other programs.

Sites from very different areas within the region have been included in the project, with vastly different benefits in mind. Properties within the Bass catchment have

A greenho

John and Dorothy Anthony were frustrated when wombats ate a number of their newly planted trees last year, but they still say wildlife is one of the main reasons they are revegetating their Korumburra grazing property.

Twelve years ago there wasn't a native tree on the Anthony's farm, there are around 38,000. Over 20,000 have been planted with assistance from *Growing Victoria's Greenhouse Sinks* to repair land degradation and absorb carbon.

The Anthonys combine farming with a directional drilling business. The Korumburra property is a haven away from a hectic working life. They started revegetating to combat the severe soil erosion which has caused several landslips on the steep hills. The gullies were planted first to slow erosion of the soil that was washing into nearby Korumburra Reservoir.

John and Dorothy Anthony walk through an avenue of green.



Melbourne By Gavin Brock

benefited from erosion control and improved water quality; whilst landholders in the Rowsley Valley are using the Greenhouse Project to help combat Serrated Tussock which is a major weed problem in the area.

Many positive outcomes

The outcomes that have been achieved through this initiative are more wide ranging than just the removal of greenhouse gases from the atmosphere. The re-establishment of native vegetation is a viable alternative to other forms of land management on marginal agricultural land. The environment benefits in many ways from the revegetation; erosion is curtailed, water quality is improved and habitat for native fauna increased. Revegetation can also help the landholder by out-competing weed species and by acting as windbreaks and protection for stock.

The trees are helping to repair landslips on the steep slopes.



use plantation at Korumburra

Dorothy Anthony says they have taken care to plant indigenous native species so the habitat is suitable for wildlife.

"It used to be rare to see anything but rabbits here. Only recently I saw a couple of wallabies close to the house and we've certainly noticed some wombat damage to the young plants. Spreading blood and bone around helps to keep them away for a while and give the plants a good start."

The Anthonys are hoping that koalas may be attracted back to the property – they were common in the area before clearing.

Dorothy says it is very satisfying to see how the trees are changing the look of the landscape. "We are close to Korumburra and bordered by a major local road so people can really see what we've been doing. Hopefully it may encourage others to put in trees to stop the land degradation and spread the greenhouse benefits further."

For further information contact Gavin Brock at NRE on (03) 9785 0131.



Athol and Doreen McKay

The story of the McKays recharge planting project at Crowlands, Western Victoria.

The history of land management in Australia is woven into the history of individual pioneering families. At Crowlands, in Victoria's Wimmera, the process of tackling salinity using native vegetation and rabbit control is demonstrated in the farming cycles of the McKay family.

Before the McKays settled at Crowlands, the Buckingham family arrived in the Telegraph Hill area. This was the 1860s and the Buckinghams cleared their land for English-style agricultural use. When later generations of that family decided to sell, Athol and Doreen McKay bought the title. This was nearly a century later, in 1970.

Doreen McKay's grandfather, Mr Thomas, owned the property next door. He had emigrated from England and travelled from Adelaide across to Ararat. Edith and Harold Thomas now own this land.

Grazing sheep and rabbits

The McKay's bought the property with the intention of grazing sheep and it was running around one sheep an acre. It also had a high stocking rate of rabbits and two rabbit drives were done in 1971. The first drive yielded 325 pairs. The next drive a fortnight later gave 215 pairs. The sale of these rabbits paid for a holiday to Tasmania.

The rabbits soon came back so an aerial drop of 1080 followed. The property reeked of rotting rabbits for the next six months. Although there has been an annual 1080-baiting program by ground application, rabbits have been an ongoing problem. In 1997 the RabbitBuster program was introduced and the McKays were keen to be involved. With the help of Brian Howlett from NRE a major rabbit harbour removal program was started. Before this program began, monitoring transects had yielded over 45 rabbits per 500 metres. This is an extremely high population.



Athol and Doreen McKay are dwarfed by their trees.

Following warren ripping, harbour destruction and expenditure of \$19,500 only two rabbits were sighted in the transects and these came from an area of ferns and gully that could not be ripped. Athol was over the moon about the effectiveness of the control.

Greening the steep divide

With the rabbits in check the McKays decided to embark on a challenging revegetation project for their steeper hills. The hills form the divide between the Wimmera and Hopkins catchments and are known as areas of high recharge (release of salt) to the groundwater system. Over a number of years Athol and Doreen had become aware that the management of their hills had a big influence on what occurred downstream.

> Doreen, who grew up locally, recalls black wattle growing along the drainage lines in the 1950s and salt not being evident. Yet they were aware, from the time of the initial purchase of the property in the 1970s, of a saline discharge area on the lower slopes. They started repairing the area using wheat straw as a mulch and fencing it off. The area has now been revegetated.

At the time the McKays were working on the revegetation they were unaware of the connection with the cleared hills and salinity downstream. Although during the 1980s they did notice the deteriorating water quality of the Wimmera River and some of their local streams.

A number of factors helped to clinch the McKays' decision to revegetate their hills. In 1995, Doreen and Athol went on an overnight farm forestry tour to the Benalla area. Here they

saw the break of slope plantings being done in hill country to help with salinity and the potential of agroforestry. At the same time, extra work was being done in the upper Wimmera catchment by myself and Mark Hocking from NRE to identify high recharge areas in the landscape.

Following this Athol and Doreen worked towards their objective of putting trees back on their hills at a landscape level to help reduce salinity downsteam.

take to the hills By Julie Andrew



The success rate has been high - due to vigilant rabbit control.

Large areas of the hills were net-fenced and deep-ripped. Weed control followed in 1998 with tree planting of 800 stems per hectare. A small one-hectare agroforestry trial was also set up. In 1999 the next stage was planted. The final section of 34 hectares is to be planted this year.

Farm forestry in the future

The possibility of generating future income from the trees has also inspired the McKays to apply farm forestry principles to their plantation. Form pruning has already begun. Annual monitoring of the one-hectare agroforestry trial has shown high survival rates for the seven species. The lightwood and drooping sheoak have shown the best growth rates and are over two metres in height.

This ambitious project would not have been possible without grant assistance through RabbitBuster and the Land Protection Incentive Scheme. Advice and assistance from NRE has also been important, as has labour from the Landmate crew from HM Prison Ararat and assistance from Project Platypus.

There were times when Athol and Doreen McKay felt anxious about the trees, especially on the exposed tops of the hills. At one stage the whole family, including Doreen's Mum, Nan, were up there hand-pulling weeds to help the trees through. Cockatoos and wallabies gave some species a hammering. Weed control is an ongoing concern, as is ensuring that the rabbits are kept out.

These days there is much excitement when the McKays drive around the hill and see the trees from a distance. Doreen is particularly happy to see native species



The break of slope planting from a distance.

like Running Postman returning to the site and the fast growth of the black wattle. Added to this is a feeling of satisfaction and surprise that an increasing number of people are interested in the work they have done, including the mayor of the local Shire. Athol says he feels great satisfaction to see the country back the way it should be, and to be helping those downstream.

Neighbours are now planning similar work on adjoining hills - so it won't be too long before all of the salty old hills will again be forested.

For further information contact Julie Andrew at NRE Stawell on (03) 5358 1588.



WEEDMAN is a new workshop-based education program designed to empower the community by giving it the tools and resources needed to manage and/or control weeds. The method can be used to tackle any problem weed, whether it is an agricultural weed of crop or pasture, or an environmental weed of unimproved pasture, wasteland, crown land or roadsides. It can also be used for forest, horticultural or viticultural weed problems.

The key criteria for WEEDMAN is to have a body of committed or interested people who are keen to do something about a local weed problem. There are a number of benefits in the workshop approach:

• They establish the current level of knowledge and management practice of the participants.

- They help to develop an integrated management focus for local situations, from the paddock to the farm, or to the Landcare group area.
- From the industry and NRE perspective's they gather information about what land managers are doing regarding use of chemicals and other management options.

Farmers are great innovators when it comes to finding solutions to problems. The workshops facilitate the flow of information, helping farmers to share their experiences with one another. Case studies open the eyes of participants to different options and can prompt them to try other methods. Some of the anecdotal information brought out can be refined for best management practice. It may also provide leads for further research and extension into a particular weed problem.

How the system works

The workshops normally run for one full day. Other alternatives are two half-day sessions or four two-hour sessions. Worksheets are distributed to participants two weeks prior to each workshop to stimulate their thinking about some of the biological and ecological problems the weed creates, and about management options tried.

The first half of the workshop includes:

- Defining the problem, including the cost of the weed problem, for example, from yield loss or downgrading.
- Considering the biology and ecology of the weed from a farmer or landholder perspective.
- Group discussion of effective management options.

tough with weeds

- Discussion of failed management options.
- Brainstorming of other ideas, including potential economic uses of the weed, for example garlic-flavoured bread or meat from wild garlic.

A bank of information is built up from farmer's observations, including their mistakes; from data in the literature and from NRE and industry experiences. A powerful factor at work is that landholders can learn from both the successes and failures of their peers, rather than just having an agronomist or company representative preaching doctrine at them from a fact sheet. The remainder of the time is spent developing integrated weed management plans, based on farmer's situations. Again, a number of factors need to be considered:

- The current weed situation.
- The history of how the weed got there and how the problem developed.
- Where the landholder wants to be in five years time regarding management of the weed.
- The keys to achieving the five-year goal or what has to be done to get there. For example managing the seedbank, stopping seed set, keeping seed out of the paddock and monitoring.
- The specifics of how the farmer/ landholder is going to achieve the goal; for example, management options in the paddock.

There are two general approaches to developing options. The first is to look at an established rotation put forward by the landholder and the management options already being used, to see if they are achieving their goals. This method provides a specific strategy. The second and preferred option looks at all cropping and landuse options for the paddock and comes up with an options tree. This gives a wider range of options.



The developer of WEEDMAN, Michael Moerkerk.

Each participant can go away with a list of management options for their own situation. These include strategies for early or late breaks, monitoring processes, reviewing goals and overall progress. The aim is to help landholders build flexibility into their management. They may need to be prepared to sacrifice short-term economics for long-term goals.

The facilitator writes up information from each workshop and a copy is distributed to participants. An edited version is also put on the *WEEDMAN* website. This website contains the biological and ecological profile of weeds, information on how to organise workshops and outputs from previous workshops. It also serves as the program's database.

Group

A worthwhile investment

After several developmental workshops in the past 18 months, including one on wild garlic on the Bendigo Creek, two on muskweed in the Wimmera and one on fumitory at Wagga Wagga; the self-funding program is up and running with 50 trained instructors in southern Australia. A number of successful commercial workshops have already been held and a dozen or more are scheduled for the next 12 months. The cost is \$150 a head and there is a 75% rebate from Farmbis.

In feedback on the workshops held to date, 98% of participants indicated that they will develop IWM plans for their problem weeds while 90% say they would like additional workshops on other weed species. Comments have included "a worthwhile learning experience" and "I've spent \$50 on this workshop and it will save me \$5000 on my chemical bill".

For further information on WEEDMAN contact Michael Moerkerk on (03) 5362 2111 or visit the website at http://weedman.horsham.net.au

WEEDMAN gives the community the tools and resources to manage and control weeds.



Green power in the Latrobe Valley

By Col Sutherland

As owner and operator of Loy Yang B power station in Victoria's Latrobe Valley, Edison Mission Energy decided more than five years ago that it should play a constructive role in Australia's greenhouse emission abatement measures.

Jim Lake using a mechanical planter to plant 3000 trees on his property at Stratford.



The company joined with other Latrobe Valley power generators and was one of the first groups to sign up for the Greenhouse Challenge. Edison's Challenge program had two streams – maximum power generation efficiency, and involvement in Landcare as a contribution to long term carbon sequestration.

In the past five years, the Landcare commitment has grown like the 200,000 trees that have been planted in the company's name.

The program's area of operation has extended from the Powlett River catchment and Phillip Island in south and west Gippsland to the Wellington River catchment centered on Maffra, to the east of the power station.

Edison Mission Energy sponsors:

- Wellington Greenprint, based on Maffra – a large-scale revegetation project which aims to rehabilitate land degraded by erosion and salinity. In 2000, the program was responsible for 18 Landcare projects, the planting of 16,000 trees, six kilometres of direct seeding and more than nine kilometres of fencing. This year a further 15 kilometres of fencing and 11,000 trees are being established, with more to be added later in the year. A seedbank was established in Maffra to provide seed for the program.
 - Powlett Project rehabilitation of land, water and coastal environments in the Powlett River catchment of South Gippsland, between Korumburra in the upper catchment and the Bass Strait coast at Kilcunda.

A revegetated area along the Macalister River.

 Phillip Island Wildlife Corridor – plantings by members of the Phillip Island Landcare Group which link stands of remnant native bush on private land and native reserves across the major tourist area of Phillip Island.

Edison's \$1 million direct contribution over five years from 1999 is supplemented by in-kind support from the company and its ongoing effort to develop and maintain partnerships with key government agencies such as NRE and the Australian Greenhouse Office (AGO).

Wellington Greenprint co-operates closely with NRE and the district's Catchment Management Authority in implementing the State's revegetation program and provides pilot sites for the AGOs Bush for Greenhouse program.

Edison Mission Energy recognises that the trees being planted under its Landcare program do not represent large carbon sinks, but they are valuable for the study of sequestration.

Wellington Greenprint has provided an opportunity for the AGO to gather baseline data for sequestration measurements, because revegetation in the Wellington catchment is a new activity and the data will be unaffected by recent plantings or land changes.

Landcare is first and foremost concerned with repairing land degradation – and Edison Mission Energy is committed to that – but it is also part of the matrix of greenhouse measures that is among the most advanced in the world.

Col Sutherland is the General Manager of Edison Mission Energy Australia.

Planning for commercial trees

The Farm Tree\$ Planning Service helps farmers make informed decisions about becoming involved in forestry. The service offers landowners subsidised farm forestry planning assistance, delivered by professional consultants.

A total of 150 Victorian landowners have participated in the Farm Tree\$ Planning Service over the last two years.

Landowners receive up to \$2500 worth of professional planning and advice on integrating commercial trees for just \$400.

Project coordinator, Lyn van de Hoef from NRE, says the feedback has been very positive.

"Previous participants have commented that the service improved their understanding of farm forestry and helped them to make informed land management decisions. Some landowners also said that the service had raised alternatives they hadn't considered before."

Interested landowners must apply for the service, with applications being considered on a range of criteria.

Suitable landowners are required to own properties that have soils, topography and climate suited to commercial tree production. They must also demonstrate an enthusiasm and interest in tree growing, and a commitment to sustainable property management. Preference is given to landowners with at least ten hectares of cleared agricultural land available. This area does not have to be in the one part of the property. It could occupy a number of smaller areas, as long as they all have reasonable access for harvesting machinery.

Landowners who have completed the Farm \$mart program are particularly encouraged to apply.

The Farm Tree\$ Planning Service offers landowners subsidised farm forestry planning assistance.

"The clearer you are about where and why you want commercial trees on your property the more you will benefit from the service," says Lyn.

Successful landowners select a qualified consultant (from a list) who visits the property to develop a Farm Tree\$ Plan.

The plan may include maps, recommendations on species and sites, management options, anticipated

costs, market analyses and indicative financial returns. The tree species and management options considered in a Farm Tree\$ Plan vary depending on the preferences of the landowner and the capability of the site.

The Farm Tree\$ Plan will provide a solid foundation for entering the private forestry industry at any time in the future.

"Previous participants have so far established at least 300 hectares of commercial forestry plantations on their properties, with more planned for the future. Landowners have either established the trees themselves, entered into a joint venture agreement, or leased their land to a forestry investor."

For more information on the Farm Tree\$ Planning Service contact Lyn van de Hoef at NRE on (03) 9296 4630.

Glenelg-Hopkins region continues salinity and declining water quality

The Glenelg-Hopkins region is a great place to live. It is recognised as one of Victoria's most vital agricultural and tourism districts and dominates historic writings about the early settlement of this state. The region stretches east to Ballarat, west to the South Australian border, north to the Grampians and south to the coast.

Clearing for agriculture has stripped the basin of its cover of forest and open woodland. Only a few woodland remnants remain in the far north of the region. According to the Glenelg-Hopkins Native Vegetation Plan, shallow-rooted introduced grasses are now the predominant vegetation community covering 95% of the catchment.

Such a significant ecological shift in the region's vegetation communities has had a serious impact on native fauna with

Peter Forster from the Glenelg Hopkins CMA Salinity and Water Quality Steering Committee inspects rehabilitation works on the Hopkins River.



18 endangered, 19 vulnerable, 39 rare and 12 restricted species. Additionally, this change to introduced grasses creates significant fuel loads in summer, leading to a tremendous fire hazard as well as being a core contributor to a major salinity and water quality problems.

According to the Glenelg-Hopkins Regional Strategic Plan, salinity in the region currently affects around 27,500 hectares of land. This threatens productive agricultural land, native animals, remnant vegetation and restabilised vegetation, roads, railway lines and houses. It also increases the risk of toxic algal bloom in waterways. Many major waterways are degraded with deteriorating water quality from salinity including all of the Wannon River and the upper reaches of the Merri, Hopkins and Glenelg Rivers.

If predictions are correct as detailed in the Australian Dryland Salinity Assessment 2000, the current area affected by dryland salinity will increase fivefold along with the rest of Victoria over the next 50 years. This suggests that approximately 137,500 hectares in the Glenelg-Hopkins will be salt-affected by 2050.

There is no single solution to this complicated issue. It must be addressed through a variety of approaches at the regional, State and Federal levels.

The State Government has matched funding with the Federal Government who announced in November last year a commitment of \$157 million over seven years for Victoria.

The funds are to implement the National Action Plan for Salinity and Water Quality in four priority regions across Victoria including the Glenelg-Hopkins and Corangamite Regions.

The aim is for regional partners to develop effective projects that will be assessed against a strict criteria framework. The criteria include demonstration of clear links to current strategic plans, cost sharing arrangements, integrated catchment management connectivity and strategic natural resource management value.

"In April we called for preliminary projects and received 95 proposals to undertake research, on-ground works, capacity building and communication in the salinity and water quality field," said Colin Dunkley, CEO of the Glenelg-Hopkins Catchment Management Authority.

Projects to be funded must prevent, stabilise and start to reverse trends in dryland salinity affecting the sustainability of production, the conservation of biological diversity and the viability of infrastructure. They must improve water quality and secure reliable water allocations for human uses, industry and the environment.

Within the Glenelg-Hopkins region Landcare groups, regional organisations, State agencies, 11 Local Governments, eight Water Authorities, educational institutions and others are encouraged to develop preliminary project proposals.

"Projects must address priority actions in the Glenelg-Hopkins Regional Catchment Strategy or any of the nine issue specific strategies, three River Restoration Plans and 13 Landcare Action Plans developed by the community," said Colin.

Activities that will be funded include on-ground works, capacity building, research, communication and governance.

Projects will be assessed according to how well they address specific actions from a Glenelg-Hopkins Strategy. They must be located in a priority area, and contribute to National and State outcomes.

to battle



By Kym Witney-Soanes

"Following June we will await advice from the Commonwealth Government regarding the funding levels prior to inviting the successful proponents to develop full project applications," said Colin.

The Glenelg-Hopkins CMA and the Area Consultative Committee hosted an information afternoon on the National Action Plan for Salinity and Water Quality in March at Hamilton. It covered how this new program will benefit farmers and other land managers in this Region, new salinity identification techniques and options for improving best practice adoption rates

"Eighty-four people came to the information session indicating the level of local concern regarding this issue," said Helen Anderson, Glenelg-Hopkins CMA Salinity and Water Quality Co-ordinator.

Dr Allan Curtis, Associate Director of the Johnstone Centre for Social and Biophysical Environmental Research at Charles Sturt University in Albury, presented the social perspective on managing salinity.

Dr David Dent, Researcher with the Land and Water Sciences Division of the Bureau of Rural Sciences in Canberra, gave an account of technical advancements in salinity mapping capabilities using geophysical techniques.

Through a co-ordinated effort involving all levels of government, regional authorities and the rural and urban community we can ensure that the Glenelg-Hopkins region may dominate future historic writings on the successful battle against salinity.

For further information contact Helen Anderson or Kym Witney-Soanes at the Glenelg-Hopkins CMA on (03) 5571 2526.

School children monitor water quality on a creek in the Hopkins basin.

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IN BRIEF

Fashions in the Field

Fashions in the Field is a new booklet that looks at the history of revegetation across Victoria. It is a fascinating, ironic, yet informative account of some of our classic blunders, as well as the success stories that have taken place across the landscape since European settlement.

The project came about when Peter Wheeler and Brian Calder from the Bald Hills-Creswick Landcare Group obtained funding from the Victorian Federation Grants Scheme.

Fashions in the Field is interesting and very readable. It contains some great historic photos, accounts and quotes. How about this one from one of Australia's best writers, David Malouf:

"We have been wrong to see this continent as hostile and infelicitous, so that only by the fiercest stoicism, a supreme resolution and force of will, and by felling, clearing, sowing with seeds we have brought with us, and by importing sheep, cattle, rabbits, even the birds of the air, can it be shaped and made habitable. It is habitable already." David Malouf, *Remembering Babylon*, 1993. *Fashions in the Field* was designed to provide information for Landcare groups, new landholders, secondary schools and anyone with an interest in understanding our changed landscape.

If you would like to obtain a copy, or know a group or school that would be interested in the booklet, contact the Victorian Landcare Centre on (03) 5345 2200. The first copy is free; additional/multiple copies for schools/ groups are \$1.10 each plus postage.

Wise Water Ways 2001

Following on from the success of the previous three Water Ways Workshops, The North East Catchment Management Authority, ID&A, La Trobe University, NRE and The Centre will again be running this important workshop in October this year.

This program has already proved invaluable to 150 field staff involved in natural resource management from landholders to managers in the Murray Darling Basin Authority. An exciting program has been compiled covering topics in stream management such as hydrology,



Victorian Landcare and Catchment Management Page 20

water quality, ecology, riparian vegetation, geomorphology and rehabilitation techniques.

Participants will undertake hands on assignments which constitute a minor stream management course and will receive a qualification from the Diploma of Natural Resources Management.

Wise Water Ways runs from 21-25 October 2001 and is limited to 60 participants to maximise the hands on aspect of the workshop. It will be held at the Beechworth campus of La Trobe University, a first class venue of landscaped gardens and historic buildings.

For further details contact Lachlan Campbell at The Centre on (03) 5721 0200.

Victorian Greenhouse Strategy

The Victorian Greenhouse Strategy Discussion Paper was released by the Minister for Energy and Resources in August last year. The discussion paper was an opportunity for the public to have input into the development of a comprehensive greenhouse strategy for Victoria. More than 100 public submissions were received and four stakeholder reference groups have been established to advise on submissions and on the development of the strategy.

The strategy is now well advanced and is due to be released later this year. In the meantime a number of other initiatives are progressing. The Government has introduced a bill into the parliament to legally recognise carbon property rights, and to allow their ownership separately from trees and land.

In April the Minister announced the establishment of a three-year \$750,000 research partnership between the Victorian Government and the CSIRO to investigate climate change scenarios for Victoria. Investigations will initially focus on the impacts of climate change on water resources, biodiversity, agriculture and coasts.

Juvior Landcare

Still Saltwatching



Students from Goroke P-12 College study macroinvertebrates at Lake Ratzcastle, West Wimmera.

Saltwatch began in 1987 and is Australia's longest running community water monitoring program. It has been estimated that over 100,000 students, teachers, community and Landcare groups have taken part over the years – that's a lot of salt watched.

Saltwatch is part of Waterwatch Snapshot 2001, comprising four snapshotmonitoring events. Salinity is monitored through Saltwatch in May, turbidity is monitored in October during Water Week and aquatic invertebrate sampling takes place in autumn and spring.

Saltwatch endeavours to raise community awareness about salinity and other catchment issues. It triggers groups into further environmental action such as on-ground works with Landcare groups and provides an excellent introduction into more extensive monitoring associated with the Waterwatch program.

During Saltwatch Week each May, schools and community groups from all over Victoria learn about the effects of salinity on water quality in their local catchment. Water samples are collected from local water sources (rivers, creeks, bores, channels, drains, dams, wetlands and salinity hot spots) and with the assistance of Waterwatch or NRE staff, the samples are tested with a salinity meter to determine salt content.

For schools this is an opportunity to have a guest speaker present information to the students and it is also a great stepping stone to understanding not just about salinity, but other catchment management issues. The Saltwatch catch phrase involve me and I'll understand is an important aspect of the program.

Groups can use Saltwatch to learn practical environmental monitoring, mapping, entering data, graphing, analysing and contrasting the local environment with other parts of the State. A group collects about 20 samples from their local area and when all these samples are compiled – presto! – thousands of individual readings provide an instant picture or snapshot of salinity levels throughout Victoria.

For further information visit the Saltwatch website at www.saltwatch.org.au or contact the Victorian Landcare Centre on (03) 5345 2200.

Saltwatching the Murray

Irymple South Primary School, located 10 kilometres from Mildura, has been involved in Saltwatch since day one. The program is now an integral part of the school's environmental education program.

Through the monitoring of water samples awareness of salinity issues has been raised amongst students and the school community. Students at Irymple South have taken action to both highlight and combat salinity through:

- annual participation in Saltwatch;
- installing test wells at school to monitor the watertable;
- tree planting to reclaim a salt affected area adjacent to the school grounds;
- designing and constructing a series of salinity information signs which have been erected along a school walking track;
- taking water samples along the Murray River from Albury to Goolwa showing the increasing water salinity as you move downstream. (These findings were presented to representatives of the Federal Minister for the Environment in Canberra); and
- performing in an Environmental concert for the whole school community.



Irymple South Primary School students read salinity information signs along a walking track.



Helping Communities Helping Australia A Federal Government Initiative

Saving our endangered species

Hundreds of Australian bird and animal species face extinction unless their habitat can be preserved or restored.

The Federal Government's Natural Heritatge Trust is funding a wide range of projects that aim to return threatened species and ecological communities to a secure status in the wild.

The projects include extensive revegetation works to encourage fauna to return, monitoring threatened flora and fauna and reducing the threat of predators.

With money from the Natural Heritage Trust communities, governments and local councils are working together to conserve Australia's unique wildlife for future generations.

To find out more about how you can become involved in helping Australia's threatened species or to obtain threatened species fact sheets, visit the Natural Heritage Trust web site at www.nht.gov.au or phone 1800 065 823.

VICTORIAN'S WO

A fishy project for **Gippsland volunteers**

Native birds, animals and fish are getting a helping hand around East Gippsland's Lower Clifton Creek thanks to Lucknow Primary School children, Gippsland Lakes Fishing Club, Fishcare volunteers and a \$6935 grant from the Federal Government's Natural Heritage Trust.

By planting tree and shrub varieties such as forest redgums, swamp gums, she-oaks, paperbarks, bottlebrush and wattles, the club aims to enhance aquatic habitat and increase stream biodiversity.

The common reed, (Phragmites australis) is also being reintroduced to the side of the creek.

Funded under the Trust's Fisheries Action Program, the project also incorporates a public awareness component to inform the wider community about the effects of streamside degradation.

Project officer, Melanie Snart, said the reintroduction of indigenous trees and shrubs helped biodiversity and would encourage the movement of insects and aquatic life required for fish survival.



Melanie Snart and Richard Owen get their hands dirty.

RKING FOR THE FUTURE



Gippsland Lakes Fishing Club volunteer, John Harry, with local primary students revegetating the banks of Lower Clifton Creek.

"The creek is a nursery ground for black bream. This project will improve the quality of the instream habitat and streamside plantings also help conserve fish habitat," she said.

"Preserving fish species for the future will have aquatic environmental benefits as well as economic benefits for the fishing industry.

"Lower Clifton Creek offers important recreational fishing opportunities for local and visiting anglers. The project offers enormous benefits to the entire community," she said.

Including a variety of community representatives of all ages in the plantings has helped project organisers develop greater community awareness of the issues involved.

About 70 volunteers are carrying out the plantings and helping with fencing, weed eradication and maintenance of the site.

Nagambie Landcare plants for animals

Nagambie Landcare Group is improving the prospects of a number of endangered species through its Saving Riverine Plain Remnants Project funded by the Federal Government's Natural Heritage Trust.

The grey-crowned babbler, bush-stone curlew, brush tailed phascogale and squirrel glider once roamed freely through the Goulburn riverine plain, but with their habitat shrinking they are now considered endangered. With \$37,500 from the Trust the group will protect and enhance remnant vegetation and create wildlife corridors by fencing areas and planting local shrubs.

Project Officer, Susan Sleigh, said the project had faced many challenges including the difficulty of landholders with small acreages, who found it hard to spare land for native vegetation.

"But farmers are making a great effort to save the last remaining remnants, and others are creating 40 metre wildlife corridors across property boundaries," she said.

Twenty metre corridors combining regeneration and revegetation are being created on land running along roadside verges that contain some of the last remnant bushland in the district.

"The emphasis is on understorey plants that have been lost over the years. They are critical for bird and animal habitat," Susan said.

"Ecologists tell us of the value of preserving remnant bush because it's the last remaining genetic material of our area.

"A lot of boxes were cut down because of their value for wood but farmers now value the vegetation and are putting back local native species.

"One landholder collected and planted seeds from mountain tea tree. The remnant trees have since died but we still have trees left because of the revegetation."

Susan said protecting remnant vegetation and revegetating was beneficial for everyone because it helped reduce greenhouse gases, assisted with rising watertables and salinity and preserved flora and fauna.

"Native vegetation gives endangered species a better chance of survival in the long-term," she said.



Simon Edwards among the 18-month-old direct-seeded shrubs on his Euroa property. Fencing the last remaining vegetation has allowed the yellow gums to regenerate.

A CLIMATE OF COMMITMENT

An EDISON INTERNATIONALSMCompany

Owner/operator Loy Yang B power station.

Committed to Landcare Movement.

Committed to Greenhouse Challenge.

Wellington Greenprint. Revegetation and land rehabilitation in Wellington Catchment, Central Gippsland.

Bush for Greenhouse. Pilot sites in Wellington Catchment for Australian Greenhouse Office's carbon sequestration measurement program.

Growing Victoria's Greenhouse Sinks. Partnering State Department of Natural Resources and Environment in revegetation program, Wellington Catchment.

Powlett River. Revegetation in the Powlett Catchment, South Gippsland.

Phillip Island. Wildlife corridor across the island, a premier tourist destination in West Gippsland.



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