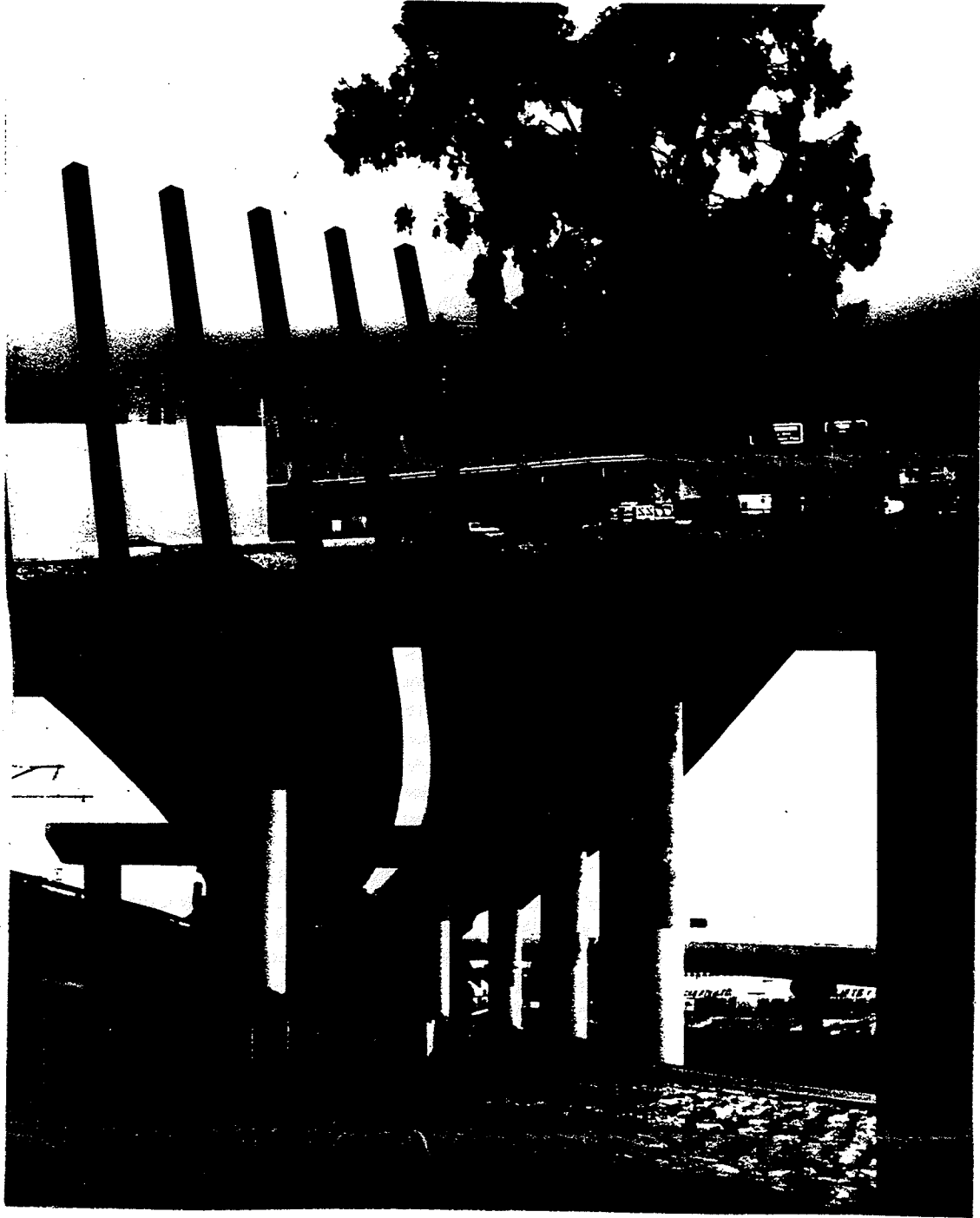


INDIGENOTES



Photographs of City Link Lanscaping - See article on page 2



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City Link Landscaping

By Ken Duxbury

Recent Plantings at Flemington Bridge

Travelling by tram down Mount Alexander Road recently, approaching the new City Link overpass at Flemington Bridge, I came across a small forest of newly planted, semi-mature poplar trees. I got out of the tram to investigate further. I counted 38 poplar trees, of a species I could not immediately identify but which I subsequently learnt was *Populus x yunnanensis* "kawa". These were clearly selected to reinforce existing plantings of Golden and Lombardy poplars in the vicinity, stretching up the hill towards the celebrated partially demolished church.

Several of the new poplars were planted alongside a fine mature River Red Gum, apparently one of the few surviving remnants of the indigenous vegetation which still existed along the Moonee Ponds Creek prior to its concretification when the Tullamarine Freeway was constructed in the early 1970s. A number of "advanced" Spotted Gums had also recently been planted. A mass planting of *Lomandra longifolia* had been used as a ground cover, in places interspersed with other indigenous species such as Blackwood, *Dodonea viscosa ssp spathulata* and *Callistemon sieberi*.

Unfortunately, many of these plants had been planted in inadequately-dug holes, and the soil had not been heeled down properly, so that many plants were dead or dying, or had been blown, washed, or perhaps pulled from their holes. Part of the problem may have been that a Hamilton Tree Planter was used in dry, stony conditions, and that the plants were then planted so that they were partly bedded into mulch, which later washed or blew away. I also lifted out a number of dead or dying plants which were sitting loose in their holes, and observed that no attempt had been made to tease out their somewhat tube-bound root masses. The planting did not achieve acceptable community planting day, let alone "world's best practice", standards. I certainly hope that more attention to detail, and effective supervision of contractors, has been achieved in the construction of bridges, tunnels etc, and – especially – the seemingly gravity-defying "Gateway to Melbourne". We should find out sooner or later

Another problem is that extensive plantings of *Lomandra* and other indigenous plants have been carried out beneath the elevated sections of the freeway, where they are unlikely to get sufficient light – although a sprinkler system has been installed to provide water, and in at least one location a species of fern has been used. It will be interesting to observe

these plantings to see how they survive. Dry shade is always a difficult landscape challenge.

I then continued along a new shared footway which extends all the way to Footscray Road. A large number of River Red Gums have recently been planted along the grassed apron of the formerly drain-like channel, which has now been given a curvilinear, rock lined course. The slopes adjacent to the grassed apron have been covered with weed mat and planted with a reasonably diverse assortment of locally indigenous shrubs and ground flora species. These creek improvements – by City Link – are certainly a step in the right direction.

What the plans propose

I then called in at the City of Moonee Valley, to inspect the landscape plans for the whole of the "Tullamarine Freeway" section of City Link. The plans provide for a standard plant mixture to be used for the "rear" of all noise attenuation walls. (This is in fact the "front" of the noise attenuation walls as viewed by local residents rather than by City Link customers).

Where sufficient space is available it is proposed to use the following trees: *Acacia implexa*, *Acacia melanoxylon*, *Eucalyptus leucoxylon ssp connata*, *Eucalyptus maculata* and *Eucalyptus melliodora*. Where less space is available – which is very often the case – the eucalypts are replaced by *Acacia pycnantha* and *Allocasuarina verticillata*. The proposed shrub mixture comprises "Acacia species", *Callistemon sieberi*, *Dodonea viscosa ssp spathulata* and *Goodenia ovata*. The proposed ground covers comprise *Atriplex semibaccata*, *Dianella longifolia*, *Lomandra longifolia* and *Poa labillardieri*. More varied planting treatments are proposed for walls abutting parklands – where more space is available.

At Ormond Park, for example, it is proposed to plant rows or copses of *Allocasuarina leuhmannii* and *Eucalyptus melliodora*. An area of 1010m² will be planted with a "large shrub mix" comprising *Acacia cultriformis* (non local) *Acacia verniciflua* and *Acacia sieberi*. A "small shrub mix" comprising *Acacia acinacea*, *Acacia genistifolia*, *Brachysema cinerea* (Western Australian) and *Rhagodia spinescens* will also be used.

The Cross Keys Reserve site will be planted with four non-local tree species: Lemon Scented Gum, Red Flowering Gum, *Casuarina cunninghamiana* and *Cupressus torulosa*. The shrubs and ground flora species would be generally locally indigenous, comprising *Acacia myrtifolia*, *Correa glabra*, *Dianella longifolia*, *Dodonea viscosa ssp spathulata*, *Lomandra longifolia* and Clustered Everlasting. A special "batter shrub mix" is also proposed, comprising *Atriplex semibaccata*, *Myoporum viscosum*, *Poa ensiformis* and *Hardenbergia violacea*.

At Roland Avenue it is proposed to plant 13 Yellow Box trees, together with 1080 *Dianella longifolia*, 1080

Lomandra longifolia, and 380 *Goodenia ovata*. Two species of climbers will also be used: 70 *Clematis aristata* and 70 *Pandora pandorana*.

A number of other non-local tree species – mainly Australian natives – are to be used at different locations throughout the project. These include *Angophora costata*, Lemon Scented Gum, Red Ironbark, White Cedar, and the almost local *Callitris glaucophylla*. In general, the major trees (except for Yellow Box) tend to be non-local species, chosen for their ornamental qualities, whereas a high proportion of the smaller trees, shrubs, and ground cover species are locally indigenous at least in the sense of being indigenous to the general region, if not the Moonee Creek valley.

The proposed plant list does have positive aspects: the indigenous species selected are generally hardy and reliable under cultivation, and will survive under a wide range of often harsh conditions. It is good to see that extensive use has been made of Yellow Box, Blackwood, and Lightwood – three locally indigenous species which are certainly worthy of wider cultivation, not only along freeways but for park, street and car park planting as well. However, it is disappointing that a wider diversity of local plant species was not used, and that many areas are a 'monoculture' of a single species – for example *Dianella longifolia*.

It is particularly disappointing that many highly suitable local species appear to be missing from the plans, for example River Red Gum, Drooping She-Oak, Sweet Bursaria, Swamp Paperbark, Burgan, Tree Violet, and Woolly Tea-tree and Hedge Wattle, to name but a few. Most of these species have been used very effectively for freeway screen planting elsewhere in Melbourne, for example at Yarra Bend Park near where the Eastern Freeway crosses the Merri Creek, along the recent Eastern Freeway extension, and along the South-Eastern arterial.

It is also disappointing that local species have generally been relegated to the background, and to creakside

plantings, with non-local species used in prominent, high impact locations, for example to highlight entries. I believe that local species could have achieved equally striking results, for example a copse of Manna Gums or River Red Gums could be highlighted by a dark backdrop of Drooping she-oaks.

I think that it is a pity that the designers could not adopt the approach suggested by Ellis Stones in 1974, in a letter to Melbourne's new Lord Mayor, Councillor Ronald Walker, who had been quoted in the press as wanting to beautify the Tullamarine Freeway. Stones' letter (quoted in *The Natural Garden. Ellis Stones: His Life and Work* by Anne Latreille, Viking O'Neill 1990, P 246) saw the freeway as a great landscape opportunity: "I envisage the whole length of the freeway as a beautiful bushland setting, with statuesque river red gums as a main feature, the ugly concrete open drain returned to the attractive creek it once was, and a full range of our Australian native trees and shrubs screening the suburban sprawl from the eyes of our visitors. New-comers would be at the top of Elizabeth Street before they knew they had even arrived..."

What a welcome!

Regrettably, the opportunity to achieve this vision – so different to the "Victoria on the move" entry experience conjured up at Flemington Bridge by Denton, Corker and Marshall – now appears to be lost.

However, there is still a great deal of work to be done to ensure that the current plans are in fact properly implemented, and that plantings are then properly maintained, and any "failures" made good. It is also important to continue the fight to have the Moonee Ponds Creek restored to a more naturalistic and less drain-like condition.

There may also be scope to lobby Moonee Valley and Moreland councils to make greater use of indigenous plantings when landscaping the road narrowings and closures which will be required to ensure that the new toll road is a resounding success.



Photographs of City Link landscaping

Weeds and Revegetation at Wilson Reserve, Ivanhoe

Wilson Reserve (Melways 31, G10) is a strip of land along the north bank of the Yarra, between Ivanhoe Golf Course and the Boulevard. Some parts are just a track and a few metres of bushland between the golf course and the river, others widen out to perhaps 200 metres depth of indigenous woodland intersected by some very popular walking tracks. These are visited by many joggers, cyclists, dog-walkers. Three of the many billabongs of the Yarra are included within the reserve: Horseshoe at the east end, Bailey in the centre, and Reedy at the west end. It is encroached by several sports facilities: Chelsworth Park sports fields, used by cricket, football, soccer and hockey clubs, and Ivanhoe Golf Course, recently extended a little into the reserve in exchange for construction of a series of storm-water settling ponds along one fairway of the golf course running down Irvine Road at the west end, with an outlet into Bailey Billabong.

The area is essentially a woodland with a canopy of River Red Gum, Black Wattle and Silver Wattle, a mid-storey of Tree Violet, Prickly Currant-bush, Kangaroo Apple and Hemp-bush, and a ground flora that has almost entirely disappeared and been replaced by a medley of weeds. These include Blackberry, Wandering Jew, Black Nightshade, Madeira Wintercherry and various exotic sedges and pasture grasses. There are also several species of deciduous woody weeds: Hawthorn, Ash, Willow, Prunus. It was largely cleared for dairy farming in the 19th century and re-purchased by public subscription for use as public open space in the 1930s, organised by a group of local conservationists

The Riverland Conservation Society was very active in the area in the early 1980s, establishing dense plantations of Black Wattle and Silver Wattle in the cleared patches, so there is now a re-growth woodland 10-20 years old. This has attracted many bird species to return, several species of bats, possums, frogs, lizards and snakes, so it is now a fairly rich ecosystem. The settling ponds on the golf course were rapidly colonised by Wood Ducks and Black Ducks, and several species of frogs.

The reserve is in the city of Banyule (formerly Heidelberg) which has its own Bushland Management team of four plus a supervisor. They have managed weed-clearing and revegetation works in selected patches of the reserve over several years, as well as planting indigenous species around the settling ponds and their outlet into Bailey Billabong.

Friends of Wilson Reserve was formed in May 1996 to take up work on some patches of the reserve not otherwise being restored. It started with an enthusiastic group of about 15 people, rapidly dwindled down to about 5 attending a monthly working bee of two hours and trying to manage a small patch (about 30 x 30 m.) over-run by Wandering Jew, Blackberry, Nightshade and in summer, by Galium. The patch has a canopy of Eucalypts, Wattles, Currant-bush and Tree Violet and over three years to date, the ground has been cleaned and kept clean, enabling the germination of many hundreds of seedlings from the canopy and mid-storey trees and shrubs. This has been supplemented by a little planting of Poa tussocks and a few daisies.

After three years of struggle to maintain this small area, the group has now ventured to break out and extend its patch southwards towards the Yarra, about 80 metres away through dense Wandering Jew, Wintercherry and Hawthorns. Working bees attract between 1 and 8 workers, often supported by one of the four Banyule Bushland Management crew, who supply tools, plants, and removal of weed piles over the following week. All the members have the opportunity to learn about the local flora, observe the variety of bird species attracted by exposure of insect-rich and frog-rich ground - kookaburras, wrens, robins, Willie Wagtails, fantails, and occasionally enjoy the sight of a hawk or a ring-tail possum. A monthly night-time frog-listen walk around Bailey Billabong has attracted the same two members since October 1998.

As well, much work has been done in the centre of the reserve, either side of a clearing crossed by a gravel walking track, where the woodland edge has been cleared of the usual assemblage of weeds as well as many mature Hawthorn trees being sawn down to stumps, and the area replanted with a mix of Poa grasses, Goodenia and some sedges and Sheep's Burr, provided free from the Council nursery. While the new plantings are young, this has required repeated weeding as the invasive weeds attempt to recolonise their territory. The result has been the emergence of many seedlings of the indigenous tree and shrub species among the young grass tussocks. Finally a large growth of Blackberry is being slowly cleared around Reedy Billabong, exposing the outlet creek, reed beds and emerging shrub layer which had been buried beneath a canopy of Blackberry canes over 2 metres high.

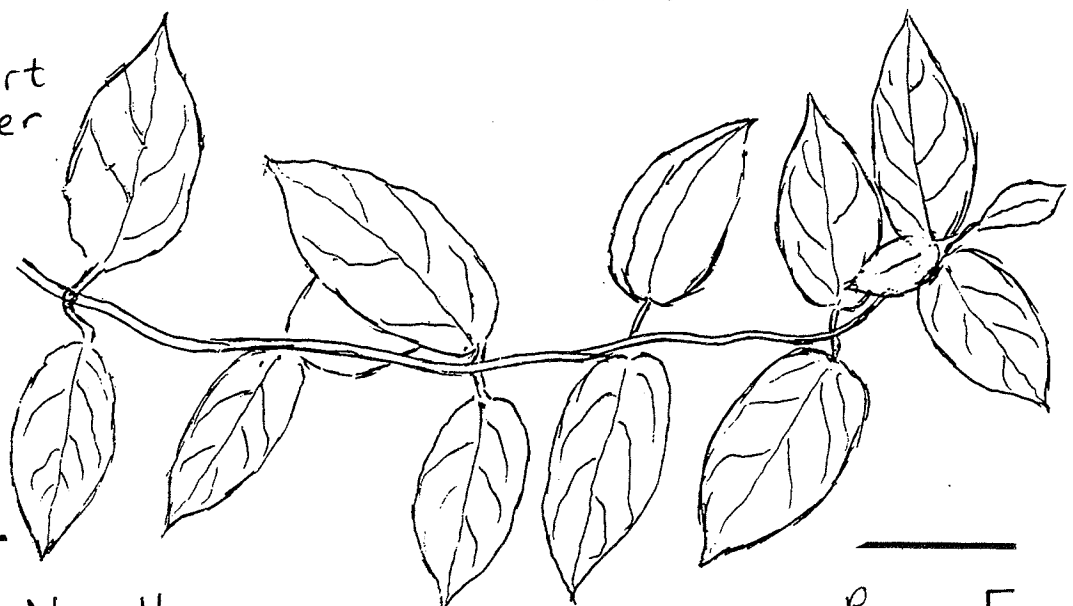
Data is steadily being collected on the frog species calling at different seasons, bats are surveyed, and a bird species list being accumulated. Many passing strollers and dog-walkers express appreciation for the work being done, but very few actually stop to help. Wilson Reserve is a typical outlet for the energies of a small number of conservation-minded people who want to put something of value into improving their local environment, while learning about its flora and fauna, a picture repeated around the metropolis. Most of the members started out unable to identify more than one or two weed species and one or two indigenous species, and all have become much better informed, as well as spending many productive hours making an obvious difference to a small patch of weed-infested bushland with great potential. It is also a good example of co-operation between volunteers and city staff. It is largely kept going by a monthly newsletter, written by one member and mailed out by the city conservation officer.

As with most Friends groups everywhere, nearly all continuing members are well over 40, and most are retirees already active in other conservation groups. The group gets bombarded with requests for input to municipal dogs-in-parks policies, street tree policies, volunteer strategy and other issues as part of the inclusive strategy of inviting comment from all active groups, which takes up much time and seems to have negligible impact on the final policy agreed to by Council.

The long-term difficulties for such a group are the size of the area it can continue to manage effectively and the replacement of members who wish to retire from active duty, resulting from moving away from the area or from advancing infirmity. But so far it looks set to produce a significant transformation in a sizeable area of what has long been a very degraded bit of the Yarra. To date the effort has all gone into hard physical labour of weed removal and occasional planting - the group got under way just as the 3-year El Nino drought was starting - and another problem will be to find innovative ways of encouraging more learning about the complexity of urban bush and its management problems.

By Robert Bender

Japanese
Honeysuckle
Lonicera japonica
RB
17/1/99



Developers Beware

In 1988 the Brunswick Council decided to plant indigenous trees along the city's streets wherever possible. A pleasantly surprising side effect was that Council officers took some complementary initiatives to spread the indigenous message in the community.

One effort was to set up a retail indigenous plant nursery, opened by the Mayor of the day, Cr. Ingham. After the Commissioners took over the nursery became neglected and stocked with exotic natives while still sporting the now misleading "Indigenous" title.

Another initiative came from the Brunswick Planning Department advising developers that Council wanted indigenous plants used in landscaping. After some time it became apparent that to use indigenous plants builders needed access to professional services of people well acquainted with the local flora. I approached Commissioner Dimity Reid, who has an interest in design matters, who accepted the desirability of Moreland preparing a list of indigenous landscapers and gardeners. It was even suggested to Planning Officer Peter Mollison that the city advertise in *Indigenotes* inviting names for a list.

All this came to nothing until January 1999 when Moreland released:

Landscape Guidelines for Developers.

This is a no frills black and white guide and includes a narrative section explaining some ecological issues and indicating that for speedy approval most plants (85% I think) in a plan should be indigenous. Reference is

1999 Hindmarsh Biolink Tree Planting Weekend ***IS ON AGAIN THIS YEAR*** **August 14-15**

Welcome to this year's planting weekend. Here are the arrangements for what should be an exciting event.

We'll supply your meals on Saturday & Sunday (except Sunday night) - please bring along your own plate, bowl, mug & cutlery.

You can choose to camp at the Little Desert Lodge or you may book bunk style accommodation (6 beds per room) for \$10 adults and \$5 per student (BYO sleeping gear).

Bus will be departing from Spencer St. Station at 5.45 pm on Friday August 13. NOTE: Bus is available only to confirmed bookings.

Don't Forget...

Tent (if you are camping), sleeping bag, pillow etc., warm clothes, wet weather gear, gloves and a hand trowel to plant trees. Any good photos of last years planting weekend would also be great - we would love to see them!

For more info call Kathryn Schaefer 0409 424 128, Ron Dodds (03) 5391 8207 or Greg Barber (03) 5391 1811.

Please send your registration form with your cheque made payable to:

'Hindmarsh Shire Council', no later than 9th July 1999
Address: The Hindmarsh Biolink Tree Planting Weekend
PO Box 250 Nhill Victoria 3418

made to using qualified landscapers to prepare plans. Lists are provided of suggested indigenous, Australian native and exotic plants.

Here issues of taste become apparent. The often lovely Red Box is listed as indigenous, despite the fact that a 1998 study of remnant vegetation in Moreland found none and the consensus among well informed folk* is that they probably did not grow here last century.

Among the natives listed the magnificent Araucarias and many other trees successful in 19th century plantings in Melbourne are absent, while the current fad tree, the toxic deciduous white cedar is included.

The extra Australian exotics, described as "non-invasive" exclude deciduous trees and many popular ornamentals such as Camellias but include two common problem plants - the Olive a very serious environmental weed which requires several poisonings to kill once established and *Coprosma kirkii*. This dull green, ground covering shrub gives no colorful flowers, but when planted in council beds in Brunswick has smothered all but trees and shrubs.

A useful list of plant references is included but a serious omission is Carr et al's *Environmental Weed Invasions in Victoria* and there is neither a list of indigenous nurseries nor of providers of indigenous landscaping or gardening services. Perhaps a one page sheet listing references and service providers would be more helpful to developers.

Eric Ward

* I have spoken to Tony Faithfull, former *Indigenotes* Editor, David Taylor, ex President of the Friends of Merri Creek and Judy Allen, propagation manager at the Victorian Indigenous Nurseries Cooperative who all concur with this



FRIENDS OF THE HARKAWAY RESERVES Inc.

C/o Harkaway Post Office 3806

1/3/99

76, Baker Road Harkaway 3806

Dear IFFA,

I write in response to your article Whither IFFA. I have not attended any of the meetings, partly because I receive notice of them in Indigenotes after they have taken place, and lately because I am too busy.

Nevertheless, receiving Indigenotes means more to me than I know how to express. During the past 5 years I have been actively involved in organising and working in revegetation projects as a volunteer. I am currently the Secretary and founding member of the above Friends Group. The tasks we are undertaking are of sufficient magnitude that recently we had an \$18000 NHT Urban Bushcare grant thrust upon us. I work nearly full time on bush regeneration and revegetation.

I would not be overstating the case if I were to say that Indigenotes has been a major, if not the major source of advice and support during all these five years. It is clear from the Whither IFFA article that you do not realise how much invaluable advice has been included in your pages over this time. Our revegetation projects have been, I think, above average successful because of it. The only other publication I receive is the Land for Wildlife News which is good but not nearly as helpful. I know of no other source whose advice is as dependable as Indigenotes. The 'moral' support is very important too.

There is plenty of bad advice sculling around at the moment, Indigenotes has not as yet compromised the standard of its articles, and this is its great strength. Amateurs and non-academics like myself subscribe because we need the expertise found in your pages but I for one don't feel competent to contribute myself, and I feel you should not encourage too many non-learned articles. Better to keep Indigenotes brief but sound, and please do not think for one minute that the activity is not worthwhile. It is priceless.

Yours sincerely,

Judy Wallace

BOUQUETS TO OUR COUNCIL FOR GOOD ENVIRONMENTAL WORKS

SPIFFA has recently enjoyed a most satisfying example of co-operation by Council staff in responding to our urgent concerns, in regard to the construction and revegetation of creek banks and environs, at the site of new culverts for Chinaman's Creek, Pt Nepean Rd, Rosebud.

Major earth works were involved resulting in the removal of much soil and vegetation (good and bad), realignment of the stream, and construction of a sand sump.

The result was a very steep batter to the west bank of the creek, south of the road, posing erosion problems and difficulties with revegetating, maintenance and weeding etc. At this point it came to our notice that the culverts' contractor was also carrying out the revegetation, and had started planting tubestock into the unstabilised and unprotected bank. Norm McKinlay then discovered that the tubestock had been sourced off the Peninsula, was not of local provenance, and thus a threat to the genetic biodiversity of existing indigenous flora, particularly that of our adjacent regeneration/revegetation project.

Members of SPIFFA spoke to Council Contracts Co-ordinator Athena Rozenberg, expressing our concerns, and I forwarded some written material about biodiversity, local provenance of indigenous flora etc. I also spoke to the contractor, similarly advised our concerns and who we were, and gave him written material.

I then decided to submit a design for the construction of the banks and details of the flora planting including a species list. Also included were three pages of text and illustrations covering the use of vegetation to stabilise streambanks, tackling erosion problems such as incised streams, channel widening, erosion of outer banks, and the position of vegetation. Also covered was selection of appropriate plant species, how riparian vegetation influences river ecosystems eg shading, and food sources for aquatic plants and animals.

Also included was a page of colour photos of a recent fine stream reconstruction/revegetation project on the Peninsula, a leaflet on the Swamp Skink and some notes on biodiversity.

As a result of this submission a site meeting was held on 7/4/99. Present were Athena Rozenberg and Dan Mullineux, Contract Supervisor from Council; Gidja Walker, Jon Greening, Norm McKinlay, Neale Adams and Richard Pew from SPIFFA.

We all had our say, views were strongly expressed, and we asked that our proposal be adopted. I wrote a memo confirming the meeting, and listed 8 points for action, as follows:-

1. That banks and batters be covered in approved weedmat and/or layered newspaper, after removal of any weeds and non-indigenous tubestock already planted.

2. Batter is stabilised with branches, small logs, sleepers etc as SPIFFA Dwg No CCK002 and 003, and backfilled.

3. Composted mulch is then spread over area, watered down (or settled by subsequent rain) then left for 6-8 weeks to consolidate.

4. Area is inspected, any weeds removed & mulch topped up as necessary. Planting of available indigenous tubestock commenced.

5. Lower bank be stabilised with logs along bank toe, other logs and branches set out, and mulched as for 3. Plant aquatic species.

6. A Mahogany Gum should be removed as advised by G Walker -non-indigenous, invasive.

7. Area will need to be fenced off to deter children and others climbing bank and trampling planting, with sign to denote Conservation Zone.

8. We recommend that this specialised indigenous landscaping work be separated from culvert works contract and be given to local qualified contractor.

Our proposal required changes to the existing contract, referral to Planning Office (Rosemary Simpson) to approve changes, agreement by contractor, and other complicated administrative procedures. This involved considerable extra work for the Council staff involved, but they were equal to the task, and moved quickly. At this point Dan Mullineux took over and what a great job he did. The contract was varied, quotes obtained, and the work was given to Preferred Landscapes (Kevin Tocknell) and the job carried out from our drawing. The area north of the road was landscaped in a similar way.

I had gone away for 2 weeks holiday, in the meantime, and came home to find the work almost completed.

We did not get a couple of items requested but what a great result, from my point of view. I have expressed my heartfelt thanks and appreciation to Council staff involved, and have mentioned this success to our new CEO Michael Kennedy who wants a meeting to learn more. This could be a catalyst for other future co-operation on ecological Council works, and hopefully before detailed working drawings and specifications are finalised. Surely both Council and ratepayers want properly constructed and ecologically true projects, involving indigenous flora and fauna, in line with the the National Local Government Biodiversity Strategy.

Richard Pew

Conservation Biology in Your Own Front Yard

Recently, in this journal, Frances Putz (1997) suggested that scattered scraps of impoverished "forests" in urban and suburban settings might be serving a conservation role far greater than their scant extent and feeble appearance would suggest. These forest habitat patches may provide the principal opportunity for kids to develop a sense of wonder and affection for the natural world. As a complement to Putz's essay, I suggest that the land right at our doorsteps—our very lawns—can also play a role in conservation education.

Herb Bormann et al. (1993) first prompted me to think about lawns in an ecological context with his book *Redesigning the American Lawn: A Search for Environmental Harmony*. It struck me as strange at first that Bormann, who had spent much of his career examining major ecological questions and issues (e.g., impacts of clearcutting on nutrient cycles, acid rain and forest dieback, and global sources and sinks of atmospheric carbon dioxide), would turn his attention to something as mundane as a lawn, but the following statistics can put lawns into perspective:

- In the United States an area about the size of Pennsylvania (25 million acres) is covered by turf grass (more land area than is devoted to any single crop).
- We add more synthetic fertilizer to our lawns than India uses for all of its crops.
- Homeowners use up to 10 times more chemical pesticides per acre on their lawns than farmers.

- We spend more per acre, on average, to maintain our lawns than we spend per acre on our crops.

The point is that the sum total of the materials, energy, and effort that we direct to our lawns is substantial. Bormann and his colleagues propose an alternative: rather than creating "industrial" lawns—the uniform, green, closely cropped, high-energy, and high-maintenance lawn championed by the lawn-care industry—they suggest the low-energy, low-maintenance, "freedom lawn"—a diverse mix of grass and herbaceous species, adapted to place and resistant to stress. They in effect propose a whole new way of thinking about the American lawn.

Shortly after I read *Redesigning the American Lawn*, a friend from Latin America visited our home. Ambling up our walk on a fine spring day, he asked the name of the beautiful yellow flower (Dandelion) in bloom all over our front yard! Just for fun I decided to see what else was blooming in our lawn. We had violets and chickweed in the shade under the pear tree; a large patch of Veronica and gill-over-the-ground in a slight depression under the clothesline; some daisy fleabane and plantain on the slope going down to the sidewalk; a patch of Canada thistle, lambs quarter, and *Amaranthus* in the back corner by the telephone pole; and a variety of clovers and grasses everywhere else. Yes, we had, it seemed, a kind of freedom lawn.

It took my Latino friend to reawaken me to some of the opportunities for ecological education at my doorstep, especially when we give

our yards "the freedom to be." The "weeds" infesting our lawn were wild beauties—each with stories to tell. Many were exotics from Europe. Some, such as dandelion and white clover, were surely brought intentionally to serve as salad greens or as forage for introduced livestock. Other "weeds," such as *Amaranthus* and lambs quarter—North American natives—served as food for Native Americans for millennia.

Their stories extend beyond plant geography and economic botany. Careful observation of any of these species reveals a wonderful array of adaptations that help ensure reproductive success in human-dominated environments. The dandelion is a case in point. After forming a rosette and basal flower bud, it pushes up its flower stalk 6-12 inches and flowers in a matter of just a few days. Then the flower closes and the stalk bends down, nearly prostrate (out of the way of whacking mowers). Once the seeds are mature, the stalk straightens again and the seeds are lifted away by the wind. Observing these things closely changes how we think about our lawns.

Our yards also offer us the opportunity to grow in self-reliance. For example, rather than spending money hiring a company to care for our yard or buying all sorts of machines so that we can get yard jobs done quickly, we might consider how the character of our yard and our relationship to it might change if we were to care for it only with our own muscle power.

When I first decided to cut our lawn with a push mower instead of a power mower, I discovered that I

1175

Source:

Conservation Biology, Pages 1175-1177
Volume 12, No. 6, December 1998

had been missing out on a rich sensual experience. It was mid-July: the push mower whirred softly through the grass. It stopped when I stopped. It seemed to connect me with people rather than isolate me; neighbors walking by stopped to talk (one even asked if she might borrow the mower). I actually smelled the mix of crushed clover and grass, seasoned on occasion with mint. I could feel the different textures of the plants I was pushing the blade through—some soft, some fibrous. Also apparent were the little ups and downs—the microtopography of my lawn. When I finished mowing, the lawn was not cropped close and uniform; rather it had a sort of roguish aspect—some dandelion flower stalks and rye grass seed stalks stood up here and there, too slippery or tough to be sliced by the mower blade, and some previously unnoticed, ground-hugging flowers had become visible.

It was hard work. In some high patches I had to get a running start. In the back yard, my daughter joined me. She took one run up and back and then I took the next. Later, I oiled an old pair of hand trimmers and snipped away at grass around trees and at the garden's edge. It was like cutting hair—fine work—kneeling, hands touching the soil.

Stephen Talbott (1998) suggests that by paying attention to the land at our doorstep we begin to reconnect with beauty and meaning. He tells of a personal experience that illustrates this point. At 51, Talbott wanted to do more than identify the birds in his back yard. He wanted "to make contact with them," so he sat by a patch of shrubs offering seeds to the birds, acting as a sort of "human feeding station." In a few days he had chickadees, juncos, titmice, and nuthatches feeding from his hands. Talbott is quick to point out that he has no special sympathies or skills and that his approach was utterly mechanical. But he was nonetheless deeply moved by the experience: "All this has been an epiphany for me. . . . I suggest that a

bird in hand—and a pine cone, and a rock, and a crawdad, and a snowflake—are the counterbalance we need if our alienation from nature is not to become more than the world can bear."

Summer turns to fall and grass cutting to leaf gathering. What lessons might our yards offer in the fall? The industrial lawn mentality calls us to mechanically remove leaves quickly: leaf blowers are employed and leaves are efficiently carted away to the dump. I thought about our little freedom lawn and about the freedom that might be gained or lost by employing a leaf blower instead of a rake. It dawned on me that my decision not to purchase a leaf blower was linked to certain values that I held. By rejecting leaf blowers I was opting for a natural pace rather than a fast pace, quiet rather than racket, clean air rather than polluted air, tradition rather than innovation.

I discovered that leaf raking, like hand-mowing, has an aesthetic and rhythm all its own: the sounds of leaves crunching; their smell mixing with the fresh autumn air; the feel and give of a bamboo rake; the softness and whimsy of a large leaf pile; the spontaneous gathering of kids to burrow in the pile; and finally the raking of leaves onto a large tarp, gathering up the corners, and toting the giant sack to the compost pile.

Our compost pile is located in near darkness under a spruce tree, where kitchen leftovers and yard debris are slowly transformed into rich humus. Recently, a student asked if she could have some of our compost. I think she expected to receive some wet matted leaves, not rich, black spongy earth; she held it reverently, smelled it, and was even tempted to taste it.

So the land at our doorstep might also help us see household and lawn "waste" differently; it might extend our appreciation of life to "lowly" soil organisms, such as earthworms; and it might teach us about cycles. I remember when at 9 years old my daughter first made this discovery.

She said something like, "It's cool the way everything in life just fits together." There are parts if we care to see them and, yes, they do fit together. The compost pile is a good place to absorb this lesson, first-hand.

Then comes winter, with the lawn covered in snow, shoveling season. With the first big snow I awake early to a deep silence and yet another doorstep aesthetic: the softness of the snow, the crunch of it under foot.

Across the way, my neighbor appears with a shovel. I haven't seen him in a few weeks. We talk. Then, the softness of the moment is ruptured. First, one snow blower, then a second, and soon a third appear down the street. Further down a car is stuck in the middle of the road, wheels spinning. The men at their snow blowers cannot hear the whining car engine, having given their full attention to their machines. We walk down with our shovels. The driver is an elderly woman, and we help her on her way.

Power lawn mowers, weed whackers, lawn chemicals of all sorts, leaf blowers, snow blowers: how our arsenal of grounds equipment has grown. We use these technologies to get the job done quickly; they save us time so that we can be "free" to move on to other, more important things. Push mowers, hand clippers, bamboo rakes, compost piles, and snow shovels are also technologies but with a different character. They invite us to move at natural speeds; they allow us to co-exist with hundreds of other species at our very doorsteps; they allow us to interact with each other while we work; and they give us the opportunity to experience more directly, through our senses, the land and the elements.

Using these simple technologies has another unexpected benefit: they help us get the scale right. If we can't cut our lawns with a hand mower, gather our leaves with a hand rake, or shovel our sidewalks by hand, perhaps our lawns are too large and our walks too extensive?

Many pioneers—dozens in every community—are showing how we can reclaim our connection with the life at our doorsteps and in the process our own wholeness. Bormann et al. (1993) and Lerner (1994) highlight a few such people:

- Laurie Otto of Bayside, Wisconsin, decided to allow a corner of her yard to revert to its wild state so that neighborhood children would have a place to pitch tents and hang their hammocks.
- The Stewarts of Potomac, Maryland, simply decided to stop cutting their lawn and let it turn into a meadow.
- The Blums of Athens, Georgia, gradually have transformed the lot around their suburban home into a small forest.

Neighbors don't always take well to such renegades. The town weed commissioner in Bayside, Wisconsin, ordered the cutting of Laurie Otto's wild patch. When she discovered what had happened she summoned the village officials to her property. Gathering the dismembered plants, she explained their names and how they had been used by Native Americans. At the end of her explanation, one of the men said, "It

sounds like we cut down a whole museum" (Lerner 1994). The Stewarts in Potomac, Maryland, received a citation stating that their lawn was in violation of the "12-inch rule" and was considered a municipal health risk. They successfully defended their choice, and the county changed its regulation. The Blums' neighbors in Athens felt that their mini-woods interrupted the green continuity of the street's lawns. To legitimize the Blum's 1-acre irregularity, the town declared their property a bird sanctuary.

What, in the end, does all this have to do with conservation education? A lot: the ultimate challenge for conservation biology isn't to create more parks, manage more forests, or shepherd through more environmental legislation. Rather, the challenge is to change the way we as a society perceive the natural world. Einstein was right: "We shall require a substantially new manner of thinking if mankind is to survive." The parks and enlightened legislation will come rushing in once we get our thinking right.

When we give the land at our doorsteps the freedom to develop its own character, we in a sense give ourselves freedom. When we use simple, hand-based technologies to

care for our yards, we forge direct, visceral connections with the land. As mundane as it may sound, for many of us the land at our doorstep provides the starting point for developing an affection for the earth, which is a necessary foundation for living respectfully within the confines of our planet. The healing of the earth will spread outward from the land around our doorsteps.

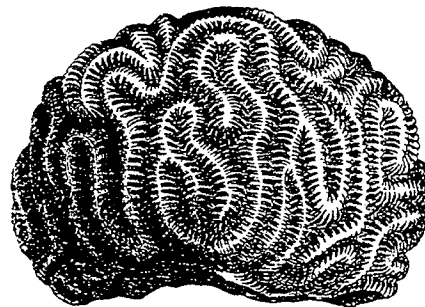
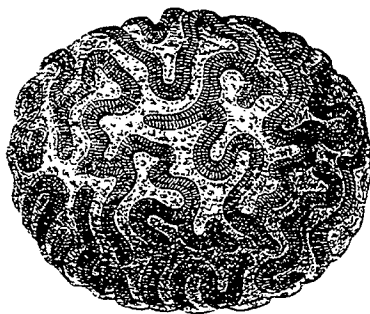
The challenge, then, is to make that land at our doorstep lovable, to allow it to truly come alive, and to allow ourselves and our children to become truly alive to it!

Christopher Uhl

208 Mueller Lab, Penn State University, University Park, PA 16802, U.S.A., email cfu1@psu.edu

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Book review

FOREST-FRIENDLY BUILDING TIMBERS

Earth Garden Books

Edited by Alan T Gray & Anne Hall

ISBN 0 9586397 0 1

This historic new book has been hailed as a win-win solution for forests and jobs by some of Australia's leading environmentalists and groups such as Environment Victoria Inc. This book is a consumer guide to using plantation and recycled timbers in building projects, instead of using our increasingly rare native forest timbers, and lists suppliers throughout Australia.

The book is presented in four sections:

Part one The reasons why use plantation timber and other useful information.

Part two Plantation products, listing the complete range comprising everything needed to build a home, from stumps to roof, joinery and details of finishes.

Part three Recycled timbers, building with new attitudes, not new timber.

Part four Resources; specifying for forest friendly timbers, pine mills, research and other information.

The National Association of Forest Industries tried to stop distribution of this book through pseudo-legal tactics, claiming the book contained false and misleading information, but backed off when their bluff was called. They employed bullying tactics acting out of self-interest, and are now under investigation by the Australian Competition and Consumer Commission.

This book is an excellent resource guide for those about to build a home or extension, or who, like me, want to learn more about the whole question of logging native forests.

Highly recommended, cost \$9.95, available from newsagents and bookstores etc.

The FLOWER CHAIN

Kangaroo Press (Simon & Schuster)

Jill, Duchess of Hamilton & Julia Bruce

ISBN 0864179227

This most interesting book covers over 200 years of the discovery and settlement of Australia, and the appreciation and recognition of our unique flora (and fauna). This commenced in 1699 when William Dampier, buccaneer and author, took over 20 specimens of Australian flora back to England for study, including *Swainsonia formosa* Sturt's Desert Pea. Nine were

illustrated in Dampier's account of his adventures *A Voyage to New Holland*.

Jill Hamilton contends, controversially, that botanist Joseph Banks, who travelled to this country with Captain Cook, did not, as is generally held, introduce the wonders of Australian flora to the world. He did indeed return to England with hundreds of flora specimens which were pressed and dried, and stored in a herbarium.

However, very little, if anything, was done to identify, classify, illustrate and publish any information about this flora. As a result, when the First Fleet left 18 years later they were not equipped with any useful information about the flora of the country in which they were to settle.

Indeed, Jill Hamilton believes that the lack of botanical background knowledge, and the fact that a botanist was not sent along to assist with the first settlement, was one of the reasons that the early settlers nearly died from lack of food.

For over 40,000 years Aboriginal people had lived off the land, and although their good health was obvious – their wounds healed quickly and they had strong white teeth – the depth of the Aboriginal culture and their knowledge of the land were vastly underrated. Typically of the time, most settlers did not try to glean knowledge from native Australians, and instead preferred to rely on imported foodstuffs, and crops grown from imported seed, which generally failed in the nutrient-poor alien soils.

Why Banks failed to write up the results of his trip is not addressed, although cost may have been a factor, and also the death of his fellow botanist and explorer Daniel Solander upon whose help Banks relied. However, the first major book on Australian flora was written by the French botanist Jacques-Julien Labillardiere, who collected plants both in Tasmania and Western Australia. The book *Novae Hollandiae plantarum specimun* was published in Paris in two volumes in 1804 and 1806.

Bank's *Florilegium* was not produced as a full colour edition until 1981.

The FLOWER CHAIN is a most interesting book and contains wonderful drawings, illustrations and photographs. Cost \$39.95. Jill Hamilton, is an Australian who settled in Britain, and has established there the Flora-for-Fauna organisation, which encourages planting of wildflowers in home gardens.

Richard Pew

Excerpts from:

Grass Clippings

A newsletter of the Grassy Ecosystem Reference Group and other happenings in native grasslands and grassy woodlands

June 1999 Number 8

Grass Clippings is an occasional newsletter to provide brief updates on initiatives and activities aimed at conserving and managing grassy ecosystems. Please send comments, contributions or requests for further information:

Vanessa Craigie, Grassland Coordinator, Dept. of Natural Resources and Environment, 4/250 Victoria Parade, East Melbourne Vic 3002, call (03) 9412 4199 fax (03) 9412 4586 - email vanessa.craigie@nre.vic.gov.au or Tim Barlow c/- Victorian National Parks Association, 10 Parliament Place, East Melbourne 3002 (03) 9650 8296 fax: (03) 9654 6843 - email: vnpa@vicnet.net.au

Issues, events and activities

F2 Freeway

Numerous groups have lodged submissions with the Planning Advisory Committee that has been set up to advise on the route of the proposed F2 freeway north of Melbourne. VicRoads identified 7 options for the route. Five of the options are directed to the east of the existing highway, and VicRoads noted that they all affected areas of significant native grasslands to a greater or lesser degree. The other options are to duplicate existing Hume Highway, and to use the E14 reservation, to the west of the highway.

Rail reassessment

The Government's public transport reform is proceeding swiftly. To prepare for this, the status of "biodiversity assets" along rail reserves needs to be reviewed - what condition remnants are in, exactly where they are located, what is required for their management and so on. During this year NRE intends to work with VicTrack and the private franchisees to identify key sites and develop management guidelines.

Significant Sites Documentation Project

This project has been funded by Environment Australia to assist in the development of a conservation strategy for grassy ecosystems, encompassing a range of protection measures on a variety of land types and tenures. The first stage of this project identified those sites which most

effectively contribute to grassy ecosystem biodiversity conservation in grassy ecosystems of the Riverina, Western Volcanic and Gippsland plains. The second stage aims to: 1) determine which sites are significant for the conservation of these grassy ecosystems; 2) map these sites; 3) document for each site their values, threats operating and management requirements; 4) develop management guidelines for these sites.

Contact the Project Officer, Alan Brennan, at NRE, 4/250 Victoria Parade East Melbourne 3002 ph. 9412 4190, fax 9412 4586, email Alan.Brennan@nre.vic.gov.au.

"Down to Grass Roots" conference

Proceedings of the conference have been compiled and edited, and are now with the printers. They will be published by Victoria University. All those who attended the conference will receive a copy. For those who did not attend, copies will be available for purchase, for around \$10 - \$15 a copy. If you wish to obtain a copy, please contact Vanessa Craigie.

Grassy ecosystem email group

An email-based discussion group has been established to provide a forum for all people interested in the ecology, conservation, management and research of lowland temperate grassy ecosystems in south eastern Australia.

The major emphasis has tended to be on conservation management of remnant grasslands and grassy woodlands, but many current subscribers are also involved in regeneration and native pasture management. Participants include management staff from government and non-government agencies, community members and researchers, including ecologists, agricultural scientists, environmental consultants, economists and social scientists. The geographic focus is on south eastern Australia, reflecting the localities and interests of current participants but this may expand depending on future participation.

Once you have joined **GrassEcol** you will be able to: 1) Send messages quickly and easily to a wide range of people with similar interests and a variety of perspectives. 2) Participate in stimulating discussions involving researchers, field workers, policy makers, academics, planners, farmers, and anyone else who has something to contribute. 3) Establish contact with people from afar with similar interests, problems, questions and answers.

To subscribe, send an email message:

'subscribe GrassEcol <your email address > (new line)
end'
to majordomo@life.csu.edu.au.

If you have trouble subscribing, please contact Dr Ian Lunt, The Johnstone Centre, Charles Sturt University, PO Box 789, Albury NSW 2640. Ph. (02) 6051 9624, fax (02) 6051 9897, email ilunt@csu.edu.au.

Conference – “Balancing Conservation and Production in Grassy Landscapes”

This is the theme of a 'Bushcare' conference to be held in Clare, SA, Aug 19-21, 1999. It will complement last year's "Grass Roots" conference through focussing on grassy ecosystems on private land. An impressive array of invited speakers has been assembled to explore a range of themes and covering the entire SE Australian range of grassy ecosystems. Contact Tim Barlow for info.

Grassland Ecology course

The three day Grassland Ecology Course was held on 25-27 November 1998 at Dunkeld. The course was developed by Greening Australia and NRE. The course was very successful and feedback has been generally favourable. We visited some superb grasslands, admired the expertise shown by the assemblers of bat traps, and withstood both blazing sun and torrential rain.

The course will be run again in October this year as the organisers will have gained both experience and useful feedback. Contact Mary Trigger or Brenda Scicluna, at Greening Australia, ph. 9457 3024, or Vanessa Craigie.

New Books

Eddy, D., Mallinson, D., Rehwinkel, R. & Sharp, S. (1998) *Grassland Flora: a field guide for the Southern Tablelands (NSW & ACT)*. Environment ACT, NSW NPWS, NSW DLWC, WWF and Snowy Mountains Hydro-electric Authority.

This beautiful field guide describes the lowland grassy ecosystems of the Southern Tablelands, but the most of the plants occur throughout south-eastern Australia, so it is a superb addition for your library. Plants are clearly described, with colour photos and b&w sketches, and information on status, distribution and related species is provided. In addition to graminoid and forb species, the guide includes ferns, shrubs and trees. To obtain a copy, send \$15 plus postage \$2.50 for 1 copy or \$5 for 2 or more to

Grassland Flora, Wildlife Research & Monitoring, EACT, PO Box 144, LYNEHAM ACT 2602 - Enquiries: 02 6207 2126

Please make your cheque/money order payable to *Receiver of Public Monies*. Proceeds from sale of this publication will be directed into reprinting, republishing or otherwise into threatened ecosystem conservation.

Friend, G., Leonard, M., Maclean, A. & Sieler I. (eds.) (1999) *Management of fire for the conservation of biodiversity: workshop proceedings*. DNRE, Melbourne

This document reports on the outcomes of five workshops held around Victoria in 1998. Priorities identified were the need for on-going primary research, and continued access by land managers to appropriate specialists, and guidelines for ecological burning. Copies are available from Gordon Friend, NRE, ph. 9412 4237, email gordon.friend@nre.vic.gov.au.

Pick of the Lit - new reports and projects

Best practice conservation of temperate

native grasslands *World Wide Fund for Nature*

This project is assessing grassland conservation projects throughout South-eastern Australia, including the best cases of conservation of native grasslands within productive landscapes. This will enable current and new projects to learn from the successes and failures of the past to more efficiently conserve the ecosystem. The resulting models of 'best practice' will be documented and presented at the Bushcare Conference in August as well as published in a report and on the internet. This project is funded by the Commonwealth National Reserves System Program. Contact Tim Barlow or James Ross (jross@enternet.com.au)

Perception of native vegetation in rural landscapes: implications for ecosystem protection and sustainable land management

(*Inst. of Land & Food Resources, University of Melbourne*)

Ever wondered why some people just don't get it when you're trying to explain the beauty of the infinite array of sounds, sights and smells that adorn the local grassy remnant? Or why so many people want to plant more trees but mow the understorey? Kath Williams, John Cary and Bob Edgar's research project *Perception of native vegetation in rural landscapes* has yielded some fascinating insights to the way people perceive different types of vegetation, with some clear distinctions between landholders and city folk emerging. From this research, guidelines have been developed that really are a 'must-read' for anyone trying to promote the conservation of native vegetation in either urban or rural environments. Contact Tim for a copy of these guidelines, or peruse the report on the internet at <http://www.landfood.unimelb.edu.au/research/> where you will also find reports by Jim Crosthwaite on the *Economics of Native Grasslands*.

Benefits of Biodiversity

Published by the *Council for Agricultural Science and Technology, USA*. Of course, there are many who just aren't interested in nature's beauty (unless it's on telly). Such people usually want to know if the stuff is 'of any use' before they'll accord any value to biodiversity. This highly readable booklet (33 pp) brings together a vast array of information (all cited) that anyone interested in biodiversity, agriculture, or the planet's future will find indispensable. Download a text version from <http://www.cast-science.org> or order the illustrated booklet from CAST, 4420 West Lincoln Way, Ames, IA 50014-3447, USA for \$US25 (includes air-mail postage).

The fire issue continues to simmer away amongst grassland managers throughout SE Australia. Adding fuel to the debate is the work of John Morgan and Ian Lunt which has been recently published in *Biological Conservation* 88 (pp379-386), elegantly entitled *Effects of time-since-fire on the tussock dynamics of a dominant grass (Themeda triandra) in a temperate Australian grassland*. This paper describes the

results of work carried out at the Derrimut Grassland Reserve, initially aimed at examining the effects of fire-frequency. An *ad hoc* approach to management has generated a meaningless frequency regime, so the authors could only deal with time since the last fire. They conclude that frequent firing, with an upper limit of 5 years max., is critical to maintain a 'living' *Themeda*-dominated grassland; any longer results in tussock death, increases susceptibility to weed invasion, and hotter and more hazardous burns. Contact Tim for a copy of this paper - he'll even send this one out for free.

Books and Resources:

Two how-to-do-it guides have been produced to assist Australian communities wanting to look after their special places:

Protecting Local Heritage Places: A Guide for Local Communities, Australian Heritage Commission 1998

Natural Heritage Places Handbook: Applying the Australian Heritage Charter to conserve places of natural significance, Australian Committee for IUCN 1998

Both publications are available from Australian Heritage Commission GPO Box 1567 Canberra ACT 2601
Ph: (02) 6217 2116 Fax: (02) 6217 2095
Email: clare.henderson@ea.gov.au

Constructed Wetlands Manual

Department of Land and Water Conservation, NSW

This manual provides information on how to develop and implement a constructed wetland for a range of applications and objectives. The manual includes design principles and philosophies, a framework for optimal project development, best available techniques for site investigations, design and construction, operation and maintenance guidelines, and public health and safety guidelines.

Cost \$185.00. For information phone 02 9895 7639, or to obtain a copy 02 928 6415.

Endangered Ecosystem Series Information Kits

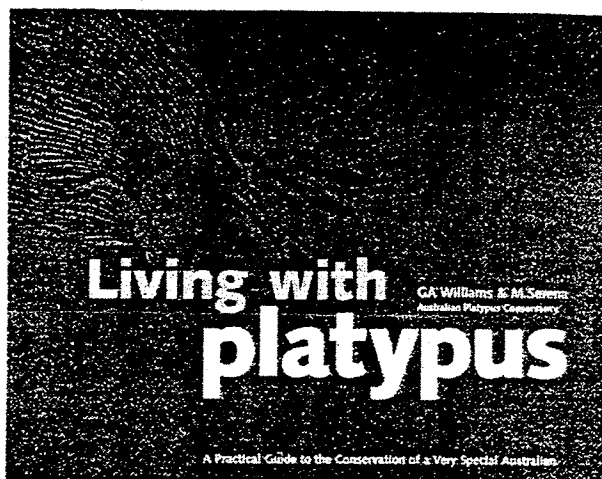
Victorian National Parks Association Inc

Focusing on three vulnerable areas of conservation management (Boxironbark Forests and Woodlands, Native Grasslands and Grassy Woodlands, and Marine and Coastal Areas) these kits are aimed at improving community understanding of these endangered places. The kits are designed as a guide for land managers, in particular land owners, government agencies, extension staff and conservation groups.

Cost \$10 each or \$24 for the full set. Contact the VNPA on 03 9650 8296

LIVING WITH PLATYPUS BOOKLET

Since its foundation in 1994, the Australian Platypus Conservancy has been working hard to unlock some of the key scientific mysteries surrounding the species. With assistance from the Parks Victoria Community Grants Program, the Conservancy has recently produced *Living with Platypus* to make research findings more accessible to the general community.



Living with Platypus is an attractive 40 page booklet, designed with the assistance of fourth year students from The Works, the design consultancy at the Royal Melbourne Institute of Technology.

This publication summarises much of what is currently known about platypus biology and ecology and provides straightforward guidelines to assist platypus conservation. It is designed to be of interest and practical value to persons involved in waterway management at every level, including landowners, community volunteers, professional officers, consultants, and elected representatives - as well as concerned citizens and students of all ages.

Copies of *Living with Platypus* can be obtained from the APC at a cost of \$5.00 each, which includes postage and handling within Australia.

Members of *Friends of the Platypus* will automatically receive a copy of the booklet when they join the organisation or renew their existing subscription.

Much of the information contained in *Living with Platypus* has also been included on the Australian Platypus Conservancy web-site to ensure that it is available to as wide an audience as possible. P.O. Box 84

Whittlesea VIC 3757
Tel. 03 9716 1626 Fax: 03 9716 1664

Email: platypus@vicnet.net.au

IFFA activities:

IFFA'S Annual General Meeting will be on Monday July 26, 1999 at 7:30 PM at the Thai Nee Cafe, Brunswick

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Membership

IFFA membership costs
\$40 for non-profit organizations,
\$50 for corporations,
\$25 for individuals and families,
or \$20 concession.
**Membership includes
11 issues of Indigenotes per year.**

Members should check the mailing label to ascertain the status of their membership. If people require and invoice, please send a purchase order and we will oblige accordingly.

Otherwise we do not issue reminders to members.

Cheques can be remitted to the Membership Secretary's P.O. Box as listed. A receipt will be attached to the front page of the following issue.

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Vice-President: Peter Tucker, (03) 9818 1537 (ah).

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Coming Events: Marcus Bechley

Contributions to *Indigenotes* should be sent to the editor — the deadline for the next issue is August 5, 1999.

Contributions can be typed or hand written but computer disk copies on PC-compatible format is preferred.

The views expressed in Indigenotes are not necessarily those of the Indigenous Flora and Fauna Association.