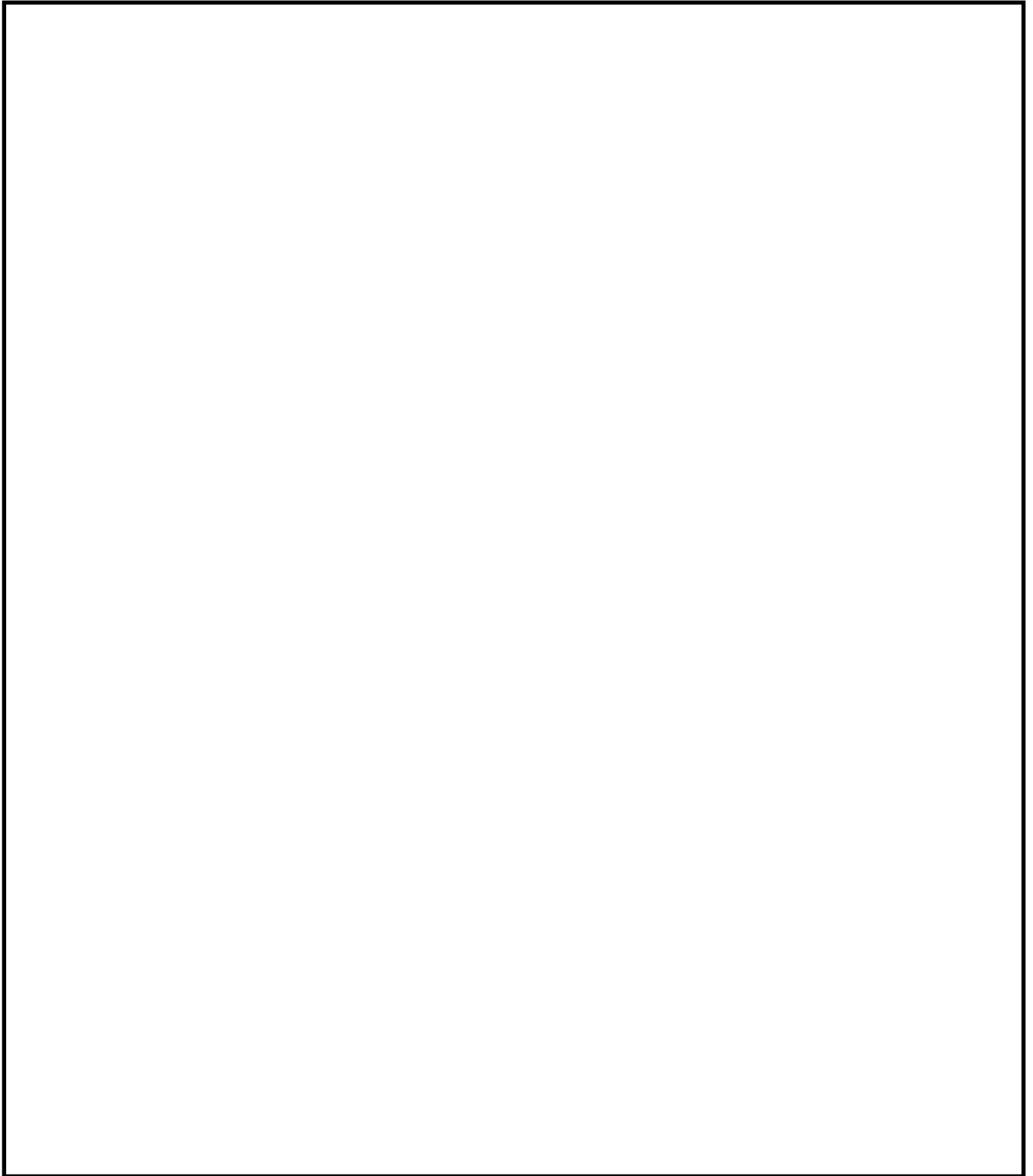


# INDIGENOTES



From the 1995 Calendar of the Toohey Forest Protection Society Inc., Brisbane

## Plains Wanderer?

# Protection of Native Grasslands on the Keilor Plains

By Carl Rayner and John Morgan, Friends of Organ Pipes NP

On the Keilor Plains, small railway reserve remnants have historically contained the highest diversity and richness of grassland plants compared to other sites. However, during the 1980's railways activity destroyed a significant proportion of the remnant vegetation. The frequent summer burns undertaken by the railways also ceased. As a result, the diversity of many railway reserves declined markedly.

By 1990, the most important sites along the railway reserves near Organ Pipes National Park included the St. Albans site (which contains the endangered plant *Rutidosia leptorhynchoides* and the rare plant *Pimelea spinescens*), Calder site (which contains the endangered plant *Senecio macrocarpus*), Digger's Rest (which contains excellent diversity and richness of herbaceous flora) and South Sunbury site (which contains a good representation of Keilor Plains flora). The St. Albans and Sunbury sites are 20 km apart and therefore each site tends to have a different representation of Keilor Plains flora.

In 1991, after seven years of negotiation between the Department of Conservation and Natural Resources (DCNR) and Vic Rail, an agreement was finally signed to allow the protection of the significant vegetation by DCNR. This allowed the Friends of Organ Pipes (FOOPS) and the Keilor Plains Group of the Society For Growing Australian Plants to obtain community grants from DCNR in 1992 to fence the St. Albans grassland reserve, Calder grassland reserve and Digger's Rest grassland reserve. In 1993, FOOPS obtained another grant from Melbourne Parks and Waterways to fence a site at South Sunbury. Half of the fencing has been carried out by FOOPS with the excellent support of the rangers at Organ Pipes National Park and the rest by Priority Victoria workers, a group of unemployed people undertaking work on railway reserves for DCNR.

The St. Albans site was officially opened by the Minister of Conservation and Environment Hon. Barry Pullen in August 1992.

Since the sites were fenced during 1992, very little damage has occurred, except at St. Albans where Vic Rail had spread some ballast on the edge of the reserve, partially damaging the fence. DCNR

recouped \$300 from Vic Rail to fix the damage at the site which was undertaken by FOOPS. This is probably the first time Vic Rail have been forced to pay for damage they have caused to remnant vegetation along a rail reserve in Victoria.

Before the sites were fenced it was a constant battle to try and prevent damage by Vic Rail and to stop grazing by horses. On the very day we obtained permission to fence the railway reserve site at Calder from Chris Knight, Environmental Officer with Vic Rail, a Vic Rail bulldozer was removing one metre of the top soil for a landing for new sleepers 1 km away. Luckily we were able to stop complete damage but it had destroyed 30 m of the reserve including many of the endangered *Senecio macrocarpus* plants. In addition, the clearing is likely to encourage weed species which may invade the grassland site.

Now that the four sites have been protected by fencing, FOOPS are concentrating on management of these sites. Burning is an essential management tool to open up the inter-tussock spaces between Kangaroo Grass clumps for the survival of herbaceous plants. Sydenham CFA and Digger's Rest CFA have burnt all the sites in the last two years. This was paid for by grants obtained by FOOPS. Unfortunately burning also encourages the regeneration of weed species immediately after a burn.

Since all sites have been degraded in the last fifteen years because minor damage from time to time, it has become very important to undertake herbicide work to control exotic plants. David Taylor from Western Suburbs Parkcare organised a herbicide training course at Organ Pipes including safety aspects and practical spraying hints. This has allowed FOOPS to undertake work at these sites to remove Serrated Tussock, Chilean Needle Grass, Phalaris, Corkscrew Grass and Artichoke Thistles. There has been an apparent reduction in the major weed flora at the St. Albans site because of this work. This work has been supported by a grant from Parks and Waterways and will also involve the installation of large routed wooden signs on each of the four protected reserves.

Another project which has been undertaken is the reintroduction of rare and endangered plants at these sites. Tiny seedlings of *Rutidosia leptorhynchoides* have been pricked out of seedling trays directly into the soil at the St. Albans site and restored successfully. These plants have survived for two years.

FOOPS has also recently obtained a grant from the Adopt A Plant scheme to restore *Rutidosia leptorhynchoides*, *Senecio macrocarpus* and *Pimelea spinescens* into these reserves. Although the propagation of *Pimelea spinescens* is very difficult.

Although FOOPS has successfully protected and undertaken some management of four sites along the rail reserves near Organ Pipes, we would love any interested Indigenote readers to help us with this work. If you would like to help contact Carl Rayner (03) 337 4936 (AH) or John Morgan (03) 568 5330 (AH).

# ***Pennisetum alopecuroides*: Indigenous or Exotic?**

**By Nick Romanowski**

**Lincoln Kern recently asked me to try to resolve whether foxtail-grass (*Pennisetum alopecuroides*, abbreviated to PA for the rest of this note) is introduced or indigenous. Although none of the available evidence can be regarded as absolutely conclusive, let's start by looking at the early history of this species in Australia. PA was first recorded here by Robert Brown in his Prodrromus of 1810; the actual collection date would have been between 1802 and 1805, probably closer to the earlier date. Specimens were collected at Port Jackson, at that time the centre of European settlement in Australia.**

Brown also collected much further north including at Moreton Bay (where this species was later regarded as common), but does not mention it from these other localities. Since that time PA seems to be recorded over an ever-increasing range, and in greater abundance. For example, the few isolated records in northern Victoria from several decades ago have now grown into minor weed problems in some areas of this state.

Although this early evidence does suggest that PA was a weed introduced at an early stage during European settlement, it is also consistent with this species being an uncommon or even rare indigenous plant which only began to expand its range and numbers under the changed conditions of the early nineteenth century. If PA was indigenous, early evidence and current information would suggest that it's range would probably have been on the coastal side of the Divide from somewhere in southern NSW to perhaps as far north as coastal southern Queensland.

Looking at the distribution of this species outside Australia gives a completely different perspective: the closest record from elsewhere is Java. From central Indonesia to central NSW is a very big jump, and while there are many plants which have skipped naturally across such great distances it is usually not too hard to understand how they could have done so. I have used *Cotula coronopifolia* as an example in an earlier note, a plant which can float for long periods in seawater (and my preliminary trials also suggest that the seeds are equally salt-tolerant). However, there is no obvious way that PA seed could have arrived in NSW from Java or further away.

I believe these are good reasons for treating PA as an introduced weed, and assuming it is just that let's look at the overall picture for the genus *Pennisetum* in Australia. Of the 12 species and subspecies of this genus recorded here, 11 are introduced. Most of these

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**Continued on page 4:**

# ACTION PAGE:

## What effect will a championship golf course have on the Yarra River?

By Flora Anderson

Christine McTighe of the Lillydale and Yarra Valley Express has done an excellent job in bringing this proposal of the Heritage Golf and Country Club to public attention.

She has been careful to present the views of both critics and proponent. To add a few more details, I will put the views of the conservation groups not only in the Shire, but of those further down the Yarra River where any detrimental effects will be felt, and up-river also, where the consequence of any flood control works such as levee banks might have a significant effect.

It is important to keep in mind that the Yarra River from Warrandyte to Warburton is protected under the Heritage Rivers Act 1992 Act No. 36/1992. This applies to public land but the Land Conservation Council in its recommendations considers that "because of its numerous values it should receive Victorian heritage river status." It is referring here to the section from Warrandyte to Yarra Glen, an area they describe as "particularly picturesque". Much of this section is privately owned.

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### ***Pennisetum alopecuroides* continued:**

are fast-spreading weeds (including PA) and many are already declared noxious. Only *P. basedowii* is indigenous, a more tropical grass which shows no particular sign of expanding its range at present (and which doesn't seem to be as readily cultivated as the weedy species, either).

Of course, it is not possible to prove absolutely that PA is an exotic weed, but the combination of records suggesting early arrival with European settlers, a fairly quick expansion in both range and population, and the mainly exotic origin of almost all species of this genus in Australia doesn't seem compatible with an indigenous origin.

There is a further twist to this tale as well; the plants offered by retail nurseries (both "native" and exotic) under the name *Pennisetum alopecuroides* are almost always the introduced *P. setaceum*, a serious weed which neither agriculturists nor gardeners would consider growing if they were offered it under its real name!

**My thanks to Surrey Jacobs (NSW Herbarium), Bryan Simon (Qld Herbarium) and Neville Walsh (Victorian Herbarium) for discussions and information without which this note could not have been written.**

Many people believe that a linear park in public ownership would be an appropriate status for the Yarra banks in this section.

It is also important to remember that the sites of both botanical and zoological significance have been identified in the subject area.

Major concerns are:

1. All 18 fairways and greens of the proposed Henley Course are to be situated on the Warrandyte flood plain and all but 5 of the St. John Course on land liable to flood also. See Heritage Golf and Country Club site plan now on exhibition. The proposed amendment to the Planning Schemes of Lillydale and Healesville Shires removes flood prone land from the restrictions on use which now apply. This will leave the proponent free to modify the banks of the Yarra and the flood plain and billabongs as they see fit. After all, they would want to ensure the protection of their investment. A flood would be a disastrous occurrence on a championship golf course which needs to be open all year round. The submission accompanying the Amendment does not give details as to how this protection will be achieved, although it does refer to... 'fill importation decreasing the flood plain area and capacity.'
2. A golf course needs to be well drained, well watered, fertilised and the greens free of weeds. We are not told where the water will come from. We may well ask where will the sub-surface drainage of greens go and how much fertiliser etc. it will contain.
3. The proponent recognises the presence of sites of significance but does not give detail as to how they will be protected. Nor are there full lists of what is present in the way of native vegetation, pond life, animal life and birds, especially waterbirds.

Other questions as yet unanswered are: What effect will modification of the river and floodplains have on neighbouring properties, established natural vegetation, wildlife, and the general ecosystems of this valuable regional resource? Which species of trees, shrubs and grasses are to be planted?

We therefore believe that an Environmental Impact Assessment must be an essential pre-requisite for this proposal. Please write to your local MPs, the Premier and the Ministers involved (Planning and Development, R. MacLellan, 477 Collins St., Melbourne 3000, Conservation and Environment, Mark Birrell at 240 Victoria Parade, East Melbourne 3002) to demand that they initiate an EIS before any development proceeds.

# Seed Of Local Provenance

## Putting forward arguments for the use of local seed in land rehabilitation programs.

**By Mike Cooper - Land Rehabilitation Officer, Division of Parks and Wildlife, Hobart, Tasmania.**

### Summary

*I am responsible for rehabilitating relatively small disturbances in national parks, and I use local seed wherever possible. Local seed is likely to succeed, and using it helps to maintain biodiversity. An extreme view maintains that it would be harmful to use seed of a different provenance for rehabilitation. I cannot find any evidence that supports this view. Natural gene pools extend to include many provenances and cover quite large areas. Gene pools are affected both by agents of dispersal and by natural selection. Sites which have resisted natural revegetation for many years present a rigorous selective regime. I conclude by outlining how the rehabilitation site interacts with the plants on it.*

Within the industries of horticulture, landscaping, forestry and rehabilitation it is increasingly common to see plans and prescriptions which recommend not just the use of native seed, but also the use of seed of local provenance. For instance the Tasmanian Wilderness World Heritage Area Management Plan (1992) states (p. 52): "Wherever possible local provenance plant species . . . will be used in rehabilitation."

The policy doesn't insist on the use of seed of local provenance at all times, although some conservationists think it should.

Those of us who conserve soil and water are being enlisted to conserve plants. Do these requirements contribute to or sidetrack us from our goal of conserving soil or water? To what extent should we go to use plants of local provenance? Are there some circumstances where it is less important or even unnecessary to do so? And what is the risk when we don't?

Let us first examine the reasons for using seed of local provenance.

### The Reasons

- (a) They will probably survive: Compared with seed from other areas, seed of local provenance is more likely to germinate, survive and grow. There are exceptions where a site has been radically altered, which I will deal with later.
- (b) To preserve biodiversity: In order to cultivate other desirable plants, farmers and foresters have removed

the original vegetation from much of our land. Clearing has been on such a scale that communities and species have disappeared, and local gene pools have been depleted. The losses are enormous.

Unlike the problem in part (c) below, this problem is important, obvious, and has clear workable solutions. Thus a landscaper or farmer is advised to collect seed from remnant communities to grow windbreaks. After a logging operation has depleted the trees and minor species in a coupe, the foresters are advised to collect seed locally to rehabilitate landings and forest roads. Preserving biodiversity is just as important outside national parks as it is inside them.

- (c) It would be harmful to introduce outside genes into the local gene pool. Some people have spoken of addition of seed from another provenance as 'pollution' implying that it is harmful.

It is important not to confuse this reason (c) with (b) above. It is a far cry from the removal or replacement of large areas of local seed during forest operations to the addition of seed to small areas during rehabilitation.

I find the two reasons (a) and (b) strong ones for looking first to local plants for seed for a revegetation program. However I'm not convinced by (c), the reason for using seed of local provenance exclusively.

### No Evidence

Many studies have shown the genetic variations within a species from one locality to another. Plants introduced from another locality would be genetically different and they might interbreed with local plants. I can understand those who find this kind of intervention to be distasteful, but if they wish to prohibit the use of outside genes they should really produce some evidence of the harmful consequences. I have seen no reports of any harm that has resulted from introducing genes from another locality. Until someone demonstrates the seriousness or at least the nature of the damage caused, I suspect it to be minor or imaginary.

Let us look at the implications of taking the low risk options.

## Increased Costs

To use seed of local provenance is often costly. It is cheaper to grow a single batch of seedlings than several batches of seedlings from different areas. Small batches of seed from new localities have unpredictable and often low germination rates. When shortfall occurs, it is cheaper to allow for substitution of an alternative than to insist on another collection. Cost of seed goes up when collectors have to travel to many remote locations for small seed lots. When insufficient seeds are available locally in a certain season a project may have to be delayed for a year or more, or the job may have to be done in two stages.

Project managers have a responsibility to support their specifications with good reasons, especially those imposing increased costs, because their specifications determine the activities of nursery workers, seed collectors and landscapers.

## Practical Considerations

So little is known about the nature of the threat in (c) above, that no effective steps can be taken to prevent it. Suppose a seed collector were to take the threat seriously and try to avoid it. In the absence of any scientific advice he makes an arbitrary decision to subdivide his collection for Native Rosemary (*Oxylobium ellipticum*). In the long term it may turn out that he didn't subdivide finely enough, or that his precautions were quite unnecessary. In the short term, and until local provenance are determined, there is no guarantee that any pooled seed is from a single provenance, and we should call it merely local seed. I have described some of the costs and difficulties of taking the low risk option. Let us now try to analyse the risk involved in not using seed of the local provenance exclusively. The risk may be one of two kinds:

(1) Harmful effects are accumulative

Let us speculate the the harmful effect of introducing seed increases with the number of seeds introduced. Then conversely there must be a level below which the impact is not serious. Most rehabilitation sites in national parks are relatively small sites, total amounts of seed required are small compared with surrounding seed stocks, and additions to the local gene pool are relatively minor. If damage is of this kind we might argue that introducing 1 kg of seed to a site of 1 ha would cause negligible harm, or we might be prepared to accept such damage. If the impact increases the further the seed is collected from the site into which it is introduced, then we might be prepared to agree that damage would be negligible within 100 kms or within certain zones.

(1) Harmful effects are like an 'infection'

Secondly we can speculate that large impacts could follow from small discrete seed introductions.

For instance, the damage may not occur until a special type of gene enters the pool, and this damage could occur whether the seed was introduced from 100 kms away or 1 km away. If this is the manner in which introduced genes wreck a gene pool then the damage will probably occur whatever precautions we take or it has probably occurred already.

Despite the best intentions, in the practice of rehabilitation labels on seed lots or seedling fall off or get mixed up. Contamination of seed lots can also occur when the kiln is swept out, or when equipment, clothing and operators move from one locality to another. Likewise seeds or pollen can be carried around our parks in the cars, clothing or faeces of the many visitors. Millions of bees are taken into our national parks each year and these must have an impact on pollen dispersal. The European wasp is found in the remotest locations, and I suppose other introduced pollinators are too. High winds can carry dust across the Tasman Sea, so they can surely bring pollen from the mainland. The impact of rehabilitation on gene pools is probably much less than these other factors which we do not try to control.

## Provenances and Gene Pools

The geographical extent of a provenance is very difficult to determine. It varies with topography and it must also vary from species to species. Gene pools may have a greater geographical extent than a single provenance and gene dispersal and interchange probably occurs between widely separated provenances. As mentioned above, pollen can travel great distances in high winds, but, of course, it is more common for pollen from closer sources to succeed. Furthermore, natural hybridisation is known to occur between different species, and such interbreeding is likely to affect gene pools more radically than interbreeding between neighbouring provenances. Human activity has already affected the integrity of provenances within National Parks, particularly at rehabilitation which are predominantly near roads.

New genes can arise by mutation in a local population at any time. These are likely to be of no advantage or harmful to the plants, and will be eliminated by natural selection. The same is true of most new genes introduced from another locality. Gene pools are not static. They change through mutation and dispersal, and relative gene frequencies are determined by selection (see Fig. 1).

I believe that natural selection generally has a far greater influence on local gene frequencies than any inflow of genes. Indeed the differences we observe in nature between provenances in different localities are preserved, I believe, more by local selection pressures than by limits on the ability of genes to disperse.

## **Advantages of Enlarged Gene Pools**

When they are selecting seed for agriculture or forestry, geneticists are careful to avoid seed affected by selfing or inbreeding. If seed is collected when the crop is sparse, or from a single tree, it may prove to have poor characteristics, such as low germination rate. Seed pooled from a wider area (a few kilometres wide) will have more genetic variability (e.g. in frost resistance). This applies equally to seed for rehabilitation.

Cultivated plants can rarely compete in the wild, and frequently geneticists look back to the wild plants for genes to improve the vigour of cultivated plants.

Namkoong (1983) and many other contributors to "Genetics and Conservation - A reference for managing wild animal and plant populations" argue that diversity should not be merely preserved but enhanced: "The genetic techniques include founding new populations, introducing new genotypes into the gene pool . . ."

In 'Genetics and Conservation of Rare Plants' Huenneke recognises that 'genetic variation within a population can influence the ability of the population's members to exploit a patchy environment, to survive stochastic events, to maintain high levels of reproductive performance, or to adjust to novel or fluctuating environments' (Huenneke, 1991). To help conserve rare plants Barrett and Kohn and also Huenneke suggest deliberate interbreeding to generate novel genetic material for introduction to novel environments (Barrett and Kohn, 1991). Certainly it would assist isolated populations of animals to survive if they were bought together to breed. Our species also seems to be invigorated by cross breeding. Despite frequent attempts to achieve racial purity in human populations, no benefits have been shown from ethnic cleansing and the practice is generally condemned as racism.

In any case it is hard to argue that what is good for rare plants is bad for common plants used in rehabilitation.

## **Rehabilitation**

Conservationists don't always recognise how strong the selection pressures are which direct evolution today. I think of a gravel pit on the Gordon Road which has been surrounded by native pioneers for 25 years without colonising it. Pioneer plants have been seeding into the pit for 25 years without colonising it. They are unable to survive there. The gravel pit is a vastly different environment from the area adjacent and may be different from any that occur naturally. If the rehabilitation was left to Mother Nature the site

would become less hostile over time and hardy local pioneers would begin to colonise it. They would be subject to strong selection pressures, the local gene pool would be altered, and the local provenance would evolve. Such evolution has been measured on rehabilitation sites (McNeilly 1987).

We spend money on rehabilitation hoping to speed up the natural processes. Beginners who spend most of their energy on selecting plants to grow on the site often fail. Another method of rehabilitation is to change the site so that plants will grow on it. In the rehabilitation the professional concentrates on site preparation, attending to drainage, aeration, spreading soil, encouraging bacteria and fungi and building up soil fertility. As in agriculture an important way to build up nitrogen levels is to grow a crop of legumes (e.g. Acacias). Whatever seed is used for rehabilitation, it is subject to strong selection pressures on-site which result in local variations in the gene pool.

Conservation of soil remains the first principle of good rehabilitation, but there are many sites which must be treated without it. Conservation of local gene pools is desirable, but nevertheless of secondary importance to rehabilitation, and sometimes it is impractical to use seed of local provenance. Outside plant reserves there can be no justification for insisting on seed of local provenance exclusively. Those who still feel that using outside seed may be harmful should show what type of harm can occur, show how serious the damage is, and help to define and determine the areal extent of provenances. I believe our parks

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Continued on page 10

# Coming events:

**For IFFA events see back cover**

## Conferences/Workshops/Talks

20 Mon February Fragrant Australian Plants 8pm. An illustrated talk presented by Gwen Elliot for the Society for Growing Australian Plants. Venue: National Herbarium Hall, South Yarra. Contact (03) 882 5297.

23 Thur February "Some Migratory Waders" 8pm. A Bird Observers Club of Australia study meeting organised by the Victorian Wader Study Group. Cost is \$5.00 BOCA members and \$10.00 non-members. Money raised will help fund BOCA's conservation efforts. A light supper is provided at the end of the session. For further details contact BOCA on (03) 877 5342.

26 February - 1 March 1995 First International Urban Parks and Waterways Best Practice Conference. The Australian Quality Council and Melbourne Parks and Waterways have joined forces to hold the first International Conference on best practice in urban parks and waterway management. Themes include: managing and planning recreation setting beyond 2000, customer focus/service, managing and structuring a best practice business. Take this opportunity to share ideas with other professionals from all over the world, and to develop an understanding of how to apply quality management and best practices. To register write to Parks and Waterways Conference, Australian Quality Council, PO Box 60, East Kew, Vic 3102, or phone (03) 816 6814.

11-13 March The 7th Friends Conference - Kangarooie. Princetown, on the Gellibrand River near Port Campbell. Meet people, explore the Otways, rage on. For info contact Friends Network at the VNPA.

10 - 12 May 1995. LOCALINKS. The National Conference on Local Environmental Action, Melbourne. A forum for people interested and involved in action for sustainability at the local level. Inquiries to Context Pty Ltd (03) 380 6933, fax (03) 380 4066.

22 - 28 September 1996 Commemorative Conference, Royal Botanic Gardens, Melbourne. 1996 is a most significant year in the history of the Royal Botanic Gardens, Melbourne. It marks the 150th anniversary of the foundation of the Gardens, and the 100th anniversary of the death of Australia's greatest nineteenth century scientist, Baron von Mueller. As part of a year-long program of events the Royal Botanic Gardens, Melbourne will host a Conference celebrating the contribution and influence of Ferdinand von Mueller in Australian science, and the future directions of Australian botanical systematic studies. Venue: University of Melbourne. For further information regarding session topics and other details contact (03) 655 2300 or fax (03) 655 2350.

## Excursions and Field Trips

January - February Nightwalks. Learn about the native inhabitants of our parks as experienced

guides take you on an exciting journey of discovery and introduce you to the wildlife. Westerfolds Park - Wednesday evenings, Silvan Reservoir Park - Thursday evenings. For enquiries contact Envirotechniques on (03) 439 9599. Bookings are essential. Cost is adults \$6.00, children \$3.00 and families \$14.00.

January - February Night Rows. Experience the diverse flora, fauna and intriguing history of Yarra Bend Park as you quietly float along the Yarra River. Spotlights are provided to view the native inhabitants of the park. Enquiries: contact Envirotechniques on (03) 439 9599. Bookings are essential. Cost is \$16.00 per person.

January - February Fun in the Yarra Valley Parklands. An exciting range of activities are on offer in the Yarra Valley Parklands over the School holidays including; Environmental theatre, bike tours, ponding, Kite making, orienteering and Aboriginal Cultural activities. Enquires to Envirotechniques (03) 439 9599. Bookings are essential.

January - February Summer Activities at Wattle Park. Park tours, nature walks, environmental games and other fun activities are on offer at Wattle Park over summer. For enquiries contact Envirotechniques on (03) 439 9599. Bookings are essential.

26 Thur January Australia Day Dawn Parade 5.30 - 8.30 am. Enjoy some magnificent bird watching in Yellingbo Faunal Reserve followed by breakfast. For further details and bookings contact (059) 647 088.

26 Thur January Billy Tea, Damper and Face Painting all afternoon at Lysterfield Lake Park. For further details contact (03) 796 7918.

27 Fri January Dusk Stroll and Night Walk 6.30 - 10pm. Enjoy the nocturnal life of Olinda State Forest. For further details contact (03) 751 1981.

28 Sat January Twilight Stroll and Night Walk 6.30 - 10pm. Discover the night's sounds and sights as you walk through Dandenong Ranges National Park. For further details and bookings contact (03) 758 1342.

29 Sun January Dawn Stroll through Mortimer Reserve. 6 - 9 am. Enjoy the prettiest time of the day in this fascinating reserve. For further details and bookings contact (059) 681 280.

29 Sun January Breakfast with the Birds 5.30 - 8.30 am. Enjoy the birds of Warrandyte State Park in this early morning event. For further details contact (03) 844 2649.

29 Sun January BBQ and Night Prowl. 6pm. Join Matt le Duc and Margaret Dimech at Warrandyte State Park for this fun night organised by the Friends Group. For further details contact Margaret on (03) 844 4285.

11 Sat Feb Twilight Stroll and Night Walk 6.30 - 10 pm. Enjoy the dusk of Dandenong Ranges National Park on this evening stroll. For further details and bookings contact (03) 758 1342. Another twilight walk will be held at the same time on the 25th of February.

## Restoration Activities

## January

- 26 Thur Friends of Warrandyte State Park 10am. Nursery activities every Thursday. Everyone welcome - experience not necessary. Nursery activities continue through the February holiday period. Thursday afternoon activities - walk, project, afternoon tea (see program on Folly notice board). Also building activities 10 - 12.30 every Thursday. For details contact Margaret Burke (03) 844 1060.
- 28 Sat FO Sherbrook Forest 2 pm. Project afternoon at new site Kallista. Meet at Hairpin Bend, Sherbrooke Rd. Parking is possible uphill on RHS from Kallista (75 J3). Handpulling of Tradescantia, bring large bags and gumboots.
- 29 Sun FO Royal Park West 10am. Project day. Planting, direct seeding trials and weed control. Mel ref 29 C12. Contact Mick Arundell on (03) 380 8075.

## February

- 4 Sat Green Link Box Hill 10am. Activity days also every Monday and Tuesday. Activities include planting, mulching, and weeding. The venue is often the Council Nursery in Nelson St, Box Hill, but it would be best to ring and check. Contact Minnette Russell Young on (03) 898 1364.
- 4 Sat Gellibrand Hill 9.45 am. Project Day. Contact Mark Corr (03) 557 2783.
- 4 Sat FO Organ Pipes National Park 10am. Project day. For details contact Carl Rayner on (03) 337 4936.
- 8 Wed FO Sherbrooke Forest 9:30 am. Project day at Ridge Track, Big Bend Extension, Low Side, mostly Ivy. Meet at Ridge Tr. gate (75 D5) Belgrave-Ferny Ck. Rd.
- 11 Sat Wurundjeri Garden 10 - noon. This Koori food garden by the Yarra in Hawthorn has been established for three years. Meet Glen Avon Rd, Mel ref 45 A11. Planting and weeding. Contact Dorothy Sutherland (03) 818 4706.
- 12 Sun FO the Yarra 10am. Project day. Hand weeding and revegetation activities. Meet at Galatea Point, Mel ref 2D D7. Also Wednesdays at 10am. Contact Judy Rutherford on (03) 347 2252.
- 12 Sun Urage 10 am. (Upwey Regional Action Group for the Environment) Project Day. Weeding of ivy, blackberry, wandering jew. Planting indigenous grasses, and restoration of indigenous vegetation along Ferny creek. Meet cnr Deans and Morris Rd, Upwey. Mel ref 74 K12. Contact Rob Stevens (03) 754 3792.
- 12 Sun Greenlink Camberwell 3 - 5 pm. Weeding, planting and seed collection in Welfare Pde. Meet cnr Dion St and Welfare Pde. Mel ref 60 E7. Contact Diana Burgess (03) 809 2092.
- 19 Sun Meander... 10am. a group caring for the Menzies Creek and Emerald Tourist Track. Weeding, planting and track work in the creek reserve. Meet at A'Vard Picnic Ground. Melways 125 F12. For further details contact Kate Forster (059) 685 828.

19 Sun Brunswick Tree Group 10am - noon. Project day. Contact Eric Ward on (03) 388 2123.

25 Sat FO Sherbrooke Forest 2 pm. Project day, Asparagus Fern afternoon at Micawber Spur. Meet behind Micawber Tavern (75 G7), Monbulk Rd. Belgrave. Bring garden fork for digging.

For Australian Trust for Conservation Volunteers activities, contact ATCV on (053) 33 1483.

A large range of activities such as bushwalks and "Friends" activities are published by the Victorian National Parks Association in their newsletter. For details contact VNPA on (03) 650 8296.

Visitors/participants are welcome to all events listed in Indigenotes.

Thankyou to all the people who contact us regarding on-coming events their groups are organising. If you wish to have your events covered, or you can see corrections that need attention, please get in touch with Elissa Kerassitis on (03) 596 8127.

## From the Editor:

**I apologize for the lateness of this issue in advance; this time it is definitely my fault. Getting back into the editing work after a month off has been difficult but there is plenty of information within this issue. Please keep the material coming in; this newsletter is what you make it! If you have complements, criticisms, requests or contributions do not hesitate to send them in or bring issues up at our meetings.**

**Some special requests:**

**More graphics... They slowly come in but if you would like any relief from 16 pages of print I need these kinds of contributions desperately.**

**More Coming Events... Elissa and I are concerned about the relevance of this section. Is it still useful? Well, we definitely need more newsletters and events to include! We will certainly consider this as votes of support for the section. Thanks for your support - Lincoln Kern**

## Seeds of Local Provenance

### Continued:

face more serious threats.

#### REFERENCES

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**Source: Australian Journal of Soil and Water Conservation Vol. 7, No. 4, November 1994**

## Snippets: National Training Initiative in Natural and Cultural Resource Management

In recent years, courses in natural and cultural resource management have evolved rapidly and proliferated in response to strong community and political commitment to ecologically sustainable management. There are 98 such courses in Victoria, alone, covering areas such as soil conservation and land rehabilitation, sustainable management of native forests, conservation of parks, ecotourism and the identification, interpretation and conservation of cultural resources.

Accordingly, the Australian Committee for Training Curriculum (ACTRAC), in association with the recently formed Natural and Cultural Resource Management Industry Reference Group (NCRMIRG), has commissioned an audit of all relevant **accredited** and **non-accredited** curricula. The audit is an essential part of the process of ensuring that the skills, knowledge and adaptability needed for successful management on the ground are actually being consistently and efficiently delivered by training.

**An important outcome of the audit could be a best practice 'national curricula' which would provide a valuable starting point for cooperative action to ensure that what industry wants comes back consistently as the outcomes of training.**

A questionnaire has been distributed to universities, TAFE colleges and private providers, as it is expected that information on accredited courses will come mainly from these educational institutions.

However, information is also needed on **non-accredited courses**, and it is expected that this will come mainly from government agencies and community interest groups such as Landcare and Greening Australia. Such training need not lead to a formal qualification, may address a quite specific aspect of training, and be of only of a short duration (often 0.5 to 5 days). **It is requested that interested people advise urgently about relevant non-accredited training.**

Send info or contact the Project Manager, Dr. Ross Squire, 9 Gnarr St., Ballarat, Victoria, 3350 (Phone: (053) 381 014 or (03) 349 1401).

## National Trust of

## **Australia (Victoria)**

### **Save the Bush**

#### **Habitat Conservation and Management Education Program 1995**

Enrolments are now open for our 1995 Long Course: Habitat Conservation and Management (formerly Bush Regeneration Techniques).

This course, which replaces the former Bush Regeneration Techniques, was designed for Save the Bush by Randall Robinson. Topics covered include: the ecology and biology of bushland communities, impacts on bushland, and land management issues. Students are encouraged throughout the course to explore the philosophical dimensions of planning and decision-making and to learn to take a creative approach.

The course runs for 14 weeks, with a lecture/discussion one night per week and five field trips. 1994 participants explored Highfield, Greens Bush and Cape Schank; Kinglake National Park, Yarra Bend Park, Langwarrin Flora and Fauna Reserve, and Yellingbo State Nature Reserve.

The first new-format course was voted a resounding success by the 34 participants. Comments included: "I had no idea how much I didn't know." "The course has changed my life." "The key to our success...is in creative thinking, a holistic approach, some experimentation, and knowing where to find specialist knowledge...If this broad philosophical overview can be imparted...I believe that the National Trust has achieved this. Congratulations."

You will find Habitat Conservation and Management challenging and rewarding if

- you work in the field of bushland management;
- your work as a planner, an engineer, in parks and gardens, conservation, recreation or landscape may have some impact on remnant areas;
- you are looking for work in bush regeneration or any aspect of the conservation of our natural heritage;
- you are an interested member of the community.

Courses will commence in March 1995 and July 1995. If you are interested in finding out more, ring Elizabeth Donoghue at the National Trust on 654 4711.

## **Australia and New Zealand Rabbit Calicivirus Disease Program**

CSIRO Division of Animal Health  
(A biological control initiative against the Euro-

pean wild rabbit)

Australia and New Zealand are preparing to carry out field trials of rabbit calicivirus at a remote quarantine facility. High security laboratory trials over the last three years suggest that rabbit calicivirus disease (RCD) has great potential for control of rabbits - Australia's number one pest animal. AQIS, the Australian Quarantine and Inspection Service, is currently assessing an application under the Quarantine Act, to carry out limited pen trials at a remote site that would be designated a quarantine facility for the duration of the trials.

The planned location for the trials is Wardang Island in the Spencer Gulf, off the coast of South Australia. Wardang is an uninhabited island with a large rabbit population which is owned by the Aboriginal Land Trust of South Australia. Members of Point Pearce Aboriginal Community Council are assisting with planning the trials.

Scientists will assess whether rabbit calicivirus has the potential to be a safe, effective means of biological control for Australia's burgeoning rabbit population, currently estimated at between two hundred and three hundred million. Rabbits compete with livestock for available pasture and graze and kill young trees and shrubs. Removal of vegetation and disturbance of the soil in burrow construction contribute to soil erosion. Rabbit activity and competitiveness have contributed to the extinction of many Australian native plant and animal species. Rabbits are also a problem in New Zealand where they have caused significant land degradation, particularly in the drier pastoral and conservation lands of the South Island.

Scientists at CSIRO's Australian Animal Health Laboratory at Geelong, Victoria, have just concluded a three year, high security, investigation into rabbit calicivirus. The project team led by Dr. Cor Lenghaus, found that, in the laboratory, the virus kills European rabbits quickly and quietly and does not harm other animals.

This information is now to be confirmed in the Australia and New Zealand Rabbit Calicivirus Disease Program. Over the next two to three years the program will thoroughly evaluate rabbit calicivirus in a more natural field environment, bringing in the ecological expertise of CSIRO's Division of Wildlife and Ecology, at a cost of three million dollars.

Whilst the scientific team will be conducting pen and field trials a second group will be preparing the regulatory assessment path. If rabbit calicivirus passes the field trials it will then face community scrutiny via four Federal Acts of Parliament and associated State Territory Acts.

The program will cost about three million dollars and is backed by the Meat Research Corporation, CSIRO, New Zealand Ministry of Agriculture and Fisheries, Australian Nature Conservation Agency, Bureau of Resource Sciences, Australian and New Zealand Environment and Conservation Council, the Agriculture and Resource Management Council of Australia and New Zealand, and the International Wool Secretariat.

Following quarantine approval, the program team will start on the island within three months. Further information about calicivirus and the rabbit problem is available. Please contact Niall Bryne at CSIRO on (052) 275 028 or (052) 275 426 CSIRO AAHI, Private Bag 24, Geelong 3220.

**Note: Rabbit calicivirus was formerly known as rabbit haemorrhagic disease based on early reports on the disease signs. CSIRO's work has shown this name to be inaccurate - there is no obvious haemorrhage - so the virus has been given a more accurate name.**

Source: Trunkline No. 46 December 1994

## National Landcare Program (NLP) Community Grants 95-96

NLP aims to encourage community groups to responsibly manage their land and water resources and to conserve native plant and animal species in their local area or region.

Community groups and local governments working on projects in partnership with community groups, are invited to apply for project funding under the Community Component of the National Landcare Program (NLP) for 1995 - 96.

The community component of NLP is made up of five program elements:

Land and Water including Rural-Urban Links

One Billion Trees (OBT) program

Save the Bush (STB) program

Waterwatch (WW) program

Natural Resources Management Strategy (NRMS)

Funding is available for activities which help rural and urban communities solve natural resource management and nature conservation problems in their local area or region.

These activities include:

- community awareness and training
- resource inventory (surveying, mapping)
- planning or monitoring
- investigation, trials and demonstrations
- vegetation and wildlife habitat on ground activities
- project support
- on-ground works which provide a clear public benefit

- projects in urban areas

Projects must tackle the causes of one or more local problems in the following areas:

- land management
- water management
- cultural heritage (Murray Darling Basin only)
- vegetation restoration
- remnant vegetation protection management

For information, guidelines and application forms, contact your catchment co-ordinators, local facilitator or technical advisor. To find out who your contact is, call the Countrylink answer line on 008 026 222. Applications close on Friday 10 March 1995.

## Australian Flora Foundation Research Grants 1995-96 Call for Applications

Applications for Grants to support scientific projects on the biology or cultivation of Australian plants are invited from research workers in Australia. Projects may aim to increase our basic understanding of native plants or to solve practical problems associated with their cultivation.

There is no form for the application, but please follow the instructions in this notice. Some of the donors to the Foundation are interested in encouraging research on the following, but other topics will be considered:

Propagation and cultivation of species of importance to ornamental horticulture including *Ricinocarpos*, *Persoonia* and *Newcastelia*.

Rutaceae: propagation and cultivation.

Seed biology of Asteraceae, with horticultural value.

Research into mycorrhiza.

The Foundation was established in 1981 with the aim of fostering scientific research on the biology and cultivation of Australian plants. Since establishment, the Foundation has built up a modest research fund and regular donors. 25 projects have been funded.

By November, 1995 the Foundation expects to be able to provide further small grants (\$3,000), with possible continuation in 1996-97. Preliminary applications for grants should be submitted to the Secretary by **March 31st, 1995**. These should consist of a brief statement, 300-400 words in length, outlining the project with a budget. All information must be on two A4 pages. Indicate the organisation to which you will be attached during the project. Directors expects about twenty of these preliminary applications. Perhaps four of these

applicants will be asked to submit detailed proposals by the end of June, 1995 for approval by the Scientific Research Committee of the Foundation. Funds should be available by December, 1995 or alternatively for the academic year 1996.

President: Dr. Malcolm Reed (02) 850 8155.  
Address preliminary applications to: Hon. Secretary, Australian Flora Foundation, GPO Box 205, SYDNEY NSW 2001

## **Australian Flora Foundation Special Research Grant - Fire and Australian Flora Call for Applications**

The Australian Flora Foundation has received funds from the Trustees of the Lord Mayor's Bushfire Appeal Fund 1994 for "Research into Fire and Australian Flora".

Applications for grants between \$5,000 and \$35,000, including administration costs, to support original scientific research into the effect of fire on Australian native plant communities and individual species are invited from research workers in Australia. Funds may be made available over a period of up to three years.

Applicants must show the relevance of their project to the management and/or conservation of Australian flora and particularly to the mitigation and control of the effects of fire.

Topics may include:

Changes in flammability of vegetation in relation to fire frequency.

The response of rainforest to fire.

The effect of fire on the fungal flora.

Role of fire-related cues in breaking seed dormancy.

Other fire-related topics will be considered.

Preliminary applications for grants should be submitted to the Secretary by **Feb. 10th, 1995**. It should be a brief statement, 300-400 words in length, outlining the project with a budget. All information must be included in two A4 pages. Indicate the organisation to which you will be attached during the project. Several applicants will be asked to submit detailed proposals by early April 1995, for approval by the Scientific Research Committee of the Foundation. Funds should be available by July, 1995.

Enquiries about the special research grant:  
Dr. Roger Carolin (044) 64 2149.  
Address preliminary applications to the Secretary

at the address listed above.

## **Australian Biodiversity Council**

In March 1994, a short paper proposing the establishment of an Australian Biodiversity Council was circulated to Australian scientific societies and individuals interested in the conservation of biodiversity. The purpose of the paper was to find better ways for scientific views and insights to influence public debates and decision-making about biodiversity.

Following the positive response to the paper, a workshop was held in Melbourne on 25-26 June to develop the proposal. Participants included scientists representing 17 scientific societies, and a number of centres and departments, as well as interested individuals. The workshop addressed current problems and future opportunities, the need for a council, its goals and structure, and some aspects of operation and funding. There was a high level of agreement on all key issues. The structure of the organisation was decided, comprising a 10 member Council and a 100 member Assembly. The Assembly would meet annually or bi-annually and would have major roles in providing a direct link to individual scientists for information flow, fundraising and recruitment and a network to promote communication and provide access to expertise and resources.

A permanent secretariat would serve the Council and the Assembly, providing administrative, research co-ordination and information/networking support.

## **The Role of Nest Boxes**

A range of native animals require hollows that develop in trees and some shrubs for shelter and/or breeding. Nest boxes are used by people who want to observe wildlife occurring in their area in a convenient location. In some instances nest boxes have been used as substitutes for a lack of natural hollows (Land for Wildlife, 1991). Natural hollows are often destroyed during firewood collection, fencepost cutting, land clearance, burning and timber harvesting. Natural hollows are valuable resources for wildlife and should be left in place on a tree or on the ground so as to continue to provide habitat for animals. Natural hollows should be protected in your area as well as re-establishing local native vegetation.

Amongst the species known to have nested successfully in nest boxes are Crimson Rosella, Eastern Rosella, Rainbow Lorikeet, Red-rumped Parrot, Owllet Nightjar, Laughing Kookaburra, Striated Pardalote, Forty-spotted Pardalote, Chestnut Teal,

Maned (Wood) Duck, Tree Martin, Grey-Shrike-Thrush and White-throated Treecreeper (McCulloch, 1994). In addition to birds, at least five species of possums and gliders, plus reptiles, bats and frogs, will use nest boxes. Bats will roost in boxes designed to suit their needs.

### **Placement of Nest Boxes**

Nest boxes should be placed where people and potential predators such as cats or foxes cannot get to them. Tin guards around tree trunks may be used to keep predators at bay. Different animals prefer boxes at different heights. The site may be in a tree or dense shrub or an inaccessible place around a dam, swamp or over water. Land for Wildlife (Department of Conservation and Natural Resources) recommends nest boxes should be given protection from weather, including cold, rain and the direct heat of the sun. Fixing boxes just south of east, about 110° magnetic, has been found to be satisfactory. Bats may appreciate warmth, particularly in cool climates. You may need to try various orientations and exposure. The entrance should face away from prevailing winds and rain.

References:

Land for wildlife (1991) Nest boxes for wildlife. Note No. 14 October 1991.

McCulloch, E. (1994) Nesting in hollows. The Bird Observer July 1994:3-4.

### **Quality Made Nest Boxes to Suit Most Species**

**Tim Gunn (03) 762 2473, 015 56 11 22**

## **Books: Wildlife Survivors**

While causing the decline and extinction of many plants and animals, escalating environmental changes also favor the spread and success of others. **Wildlife Survivors** is about those favored others: who they are and why they are successful. John Quinn covers more than 100 species that show great success in adapting to the changes taking place. Not many compared to the more than 30,000 considered to be in trouble worldwide, but something. And our hope for maintaining diversity in the future lies in understanding the successful as well as the imperiled.

-Mollie Rights

Excerpt: Gradually, it became apparent that the very industry that had been responsible for the pheasant's roaring success as an avian immigrant - farming - was now responsible for its catastrophic decline. It seemed that as the "conservation ethic" of good farming - that of leaving some fields fallow and hedgerows untouched for wildlife - prevalent up until the mid-1960's gave way to the lure of profits from foreign grain sales, farming as an industry became much more intensive and "cleaner". Farmers cut hayfields earlier, mowed ditches and fencerows, and removed grain stubble right after harvest. All of these practices, along with intensified weed control efforts and more mechanised farm machinery, served to destroy pheasant habitat at a great pace. Where once a farmer's fallow field was a critical winter refuge for the birds, it became a biological desert, unable to support a field mouse, much less a pheasant.

Wildlife Survivors

**(The Flora and Fauna of Tomorrow)**

**John R. Quinn. 1993; 208 pp., ISBN 0-8306-4345-1, US\$12.95 (\$16.90 postpaid) from TAB Books Inc., Retail Order Dept. 13311 Monterey Ave., Blue Ridge Summit, PA 17294.**

**Source: Whole Earth Review Winter 1994 No. 84**

## **The Earth As Transformed by Human Action**

The Graduate School of Geography at Clark University instigated this global inventory of the long-term changes wrought by humanity on the biosphere. The project documents the major global transformations since the late seventeenth century; addressing some of the immediate social causes of these changes. The objective was not to provide the final word but rather to "catalyze and capture" synthetic thinking on the human transformation at a time when concern and understanding of global environmental change are rapidly expanding.

The Earth As Transformed is tightly organised, extremely coherent, and highly readable - even

entertaining in places - though it is buttressed with notes galore, generous references, and a multitude of clearly drawn maps, diagrams and tables.

Some things I think I learned: Our situation in some areas such as population growth, habitat loss, and maldistribution of wealth and opportunity is as bleak as I thought it was, but not more so; solutions to some crises, such as the safe disposal of nuclear waste, are closer to hand, and the processes of achieving them more reasoned, than I had been led to believe; and over the long-term and on a societal level we've all been through this before - the precipitous economic deflations, vast population displacements, deadly pollution at horrific scales.

- Don Ryan

**The Earth As Transformed By Human Action (Global and Regional Changes in the Biosphere over the Past 300 Years)**

**B. L. Turner II, et al., Editors. 1993. 713 pp., ISBN 0-521-44630-9, \$US39.95 (\$43.45 postpaid) from Cambridge University Press, 110 Midland Ave., Port Chester, NY 10573.**

**Source: Whole Earth Review Winter 1994 No. 84**

## **And No Birds Sing**

A clearly written account of perhaps the most spectacular biological invasions in recent times: the appearance on the island of Guam of the Brown Tree Snake and the subsequent disappearance of that island's bird life. Washington Post journalist Mark Jaffe weaves together other crucial stories here: the massive effort by international aviculturists to save the rare and endemic bird species; the outright resistance by the scientific community to accept explanations for the disappearance that appeared obvious to native people; and the indomitability of one woman - Julie Savidge - in pursuing the truth in the face of official scorn. Guam is an island, a large, natural, laboratory of tragedy. But note: this story is real, it's here, it's now and it's soon to be more and more.

Excerpt: He would pull into a village, knock on doors and pose questions like: When did you first notice a snake near your home? Have you seen rats near your home? Have snakes, iguanas, cats, dogs or pigs ever eaten your birds or eggs? Have your birds ever been sick? When did native birds start declining near your home?

In response, Muna gathered a spate of stories about the snake and remarkably many interviewees could virtually pinpoint the time they first remember seeing it. "It was the day of Carlo's baptism. I had gone into the garden to cut some mangoes and there was a snake on the tree." Carlos was now ten, so that was February 1972. It was that simple. Incredibly, guided by fiestas, holy

days, weddings and birthdays, most recollections in a village actually tallied.

But when it came to questions about rats and disease, most people were nonplussed. Why were they asking about rats and illnesses? There was no problem. The snake was the problem.

**And No Birds Sing**

**By Mark Jaffe (1994) 233 pp., ISBN 0-671-75107-7, US\$23 postpaid from Simon and Schuster, Order Dept., 200 Old Tappan Rd., Old Tappan, NJ 07675.**

## **Volcanoes in Victoria**

This book introduces Victoria's volcanic history. It describes the different types of volcanoes and the main landscape features, rocks and minerals which resulted from volcanic activity. It starts with the oldest volcanic rocks, and works through to the young volcanoes, some of which look as though they were active only yesterday. The book also outlines the ways in which volcanic rocks have been used in Victoria and discusses some of the conservation values of volcanic features. The Royal Society of Victoria is proud to publish *Volcanoes in Victoria* as part of its program to disseminate science to the public.

**Volcanoes in Victoria**

**By Dr. Bill Birch (Curator of Minerals, Museum of Victoria)**

36 pages, 84 colour photographs, 40 b/w illustrations and cost per copy A\$17.50 (including packaging and postage within Australia). Order from: The Royal Society of Victoria, 8 La Trobe St. Melbourne 3000.

## **Apology:**

An advance draft of the *Flora of Victoria*, Volume 2, was provided to Peter Tucker by the Greens Bookshop to review in the December 1994 edition of *Indigenotes*. We apologise for not mentioning their important efforts to help us get news of the volume to our members.

# IFFA activities:

## IFFA (Vic)

### New meeting venue:

RAOU Headquarters, 415 Riversdale Road  
Hawthorn East, Melways 45 H 12  
It is on the north side of Riversdale Road a few hundred metres west of Camberwell Junction; you'll recognise the building by the sign saying "Australian Bird Research Centre."

### Next meeting:

Tuesday 31 January at 7:30 pm at the RAOU.  
All welcome! There will not be a speaker at this meeting. All members are invited to come along and address the directions and activities for IFFA in 1995. The organisation needs your help to be effective. Please come along or at least ring a committee member to share your ideas and energy.

### Committee meeting:

The Committee meeting is now the second Monday of every month. Contact any committee member for the location.

### SPIFFA

Contact Mark Adams (059)851122.

### Indigenous Nurseries Network subcommittee:

Contact Murray Ralph (03) 419 3040 or Sue Mills (03) 383 2937.

## NSW activities:

### Next meeting:

Monday 6 January 1995 7.30 - 10.00pm. Subject to be determined. In the Maiden Theatre, Mrs Macquaries Rd, Royal Botanic Gardens Sydney. Contact Sally Fisher (02)9706486 (work).

## 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.

*Memberships should be sent to the  
Membership Secretary.*

*Include your name,  
address and phone numbers,  
and a bit about yourself.*

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**Vice-President:** Peter Tucker, (03) 482 2344(bh) and (03) 510 1034(ah).

**Secretary:** New Secretary Needed Now!!

**Membership Secretary:** Lynlee Smith, P.O. Box 328, Clifton Hill 3068. (03) 460 1669(ah).

**Treasurer:** New Treasurer still needed!!

**Committee members:** Sharon Mason (03) 386 5235(ah), Geoff Carr (03) 481 7679(bh) and (03) 380 8582(ah), Greg Bain (03) 563 5617(ah) and David Lockwood.

**Editorial team:** c/o P.O. Box 228, Preston, Victoria, 3072.

Editor: Lincoln Kern, (03) 481 4682 (ah).

Coming Events: Elissa Kerassitis (03) 596 8127(ah).

**Contributions to *Indigenotes* should be sent to the editors — the deadline for the next issue will be February 10.**

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

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