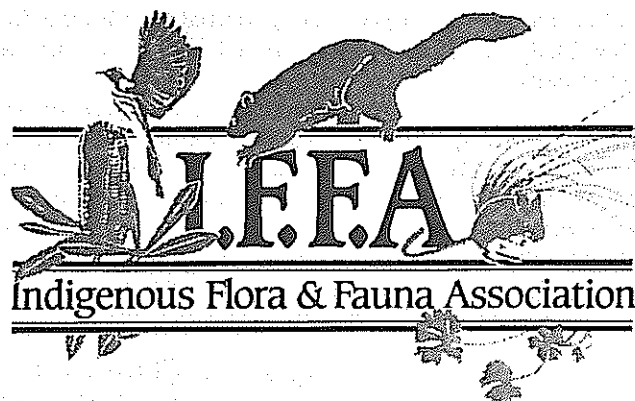


INDIGENOTES



Pseudomys novaehollandiae (New Holland Mouse)
From Jeanette Kemp.

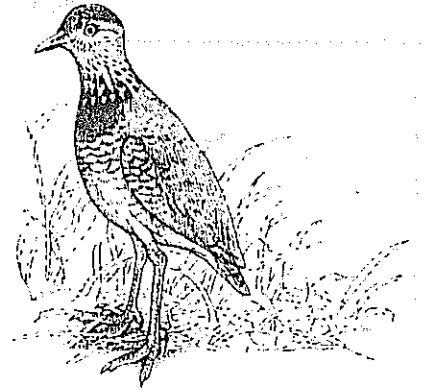


THE PLAINS WANDERER

A regular series by botanist Ian Lunt* on endangered native grasslands and grassy woodlands

SAVING REGIONAL PROVENANCES

Part 2 - Another point of view.



In the first Plains Wanderer article in July 1991, I optimistically proposed, "Perhaps the column can act as an informal 'town common' in which folk can exchange views, provide information and share successes."¹

Since then, only one voice has graced the stage in this series of polemics. Mine. Which I wholeheartedly acknowledge is a pretty poor attempt at "exchanging views" and "sharing successes".

Fortunately, the latest article², "Saving Regional Provenances" has attracted some valuable feedback. Carl Rayner's letter in last month's *Indigenotes* described some of the outstanding restoration activities being carried out by the Friends of the Organ Pipes³. In this month's column, I hand the reins to fellow botanist, Jeff Yugovic, who describes some potential problems with introducing species to intact reserves.

Clearly *Indigenotes* readers hold a wide range of views on how our reserves should be managed, and how our grasslands should be saved. Again I urge all readers to send in their own thoughts on how we can best save our endangered grasslands and species. If we get enough responses, we'll try to synthesise them in a future Plains Wanderer, to develop the most effective conservation strategy possible.

But for now, it's over to Jeff...

SAVING GRASSLAND REGIONAL PROVENANCES

Ian calls for the massive relocation of endangered regional provenances into the existing grassland reserve system. This is justified in terms of reserves being 'arks' rather than 'museums' (The Plains Wanderer, July 1992). I think this is an excellent proposal in some respects, particularly the call for an inventory of regional provenances, however I believe the issue of species relocation requires further and careful consideration.

Biological reserves are intended to be examples of living ecosystems, managed for the purposes of in situ species and ecosystem conservation. Although the two existing grassland reserves (Derrimut and Laverton North) are now somewhat depauperate and weed invaded, the vegetation is in relatively good condition within the smaller sites that are likely to be reserved as a result of negotiations between land owners and the government or panel hearings (Angliss Laverton North, Angliss Deer Park and Sydenham). The large scale relocation (or injection) of plants into these proposed reserves would reduce their integrity as native ecosystems, unless the species (and provenances) concerned are highly likely to have occurred there prior to European settlement.

Ian is not only proposing the re-introduction of species to reserves but the introduction of species as well. He would apparently like to see the 400-odd species of the Keilor Plains flora represented in every reserve except those where habitats are clearly unsuitable. But there is no

*Botany Department, LaTrobe University, Bundoora 3083.

evidence that an area as small as Derrimut (154 ha) ever supported anything like that number of species. To enrich the existing grassland reserves with refugee provenances is a worthwhile and tempting consideration given their present condition. But we should realise that, even if this were technically, logistically and financially possible, it would create synthetic, intensively managed vegetation and not the indigenous native vegetation that biological reserves are meant to conserve.

Perhaps we should now accept that these reserves don't adequately represent the original vegetation, or that they are not ecologically viable even in the short term, or that we should convert them to semi-natural indigenous gardens. However I am not quite yet prepared to write them off as examples of native ecosystems just because they are simplified. They still have considerable intrinsic value for flora and fauna (for example Derrimut supports 105 indigenous plant species, of which 5 have state significance and 30 have regional significance). There is also the potential to enhance these reserves in the future with improved technology and management.

Ex situ conservation of basalt regional provenances is certainly required. But rather than use existing *Themeda* swards, it is a relatively straightforward matter to create *Themeda* beds as artificial habitat for these species. It would take several years to prepare such sites however, as it will be necessary to exhaust the soil-stored weed seed bank through repeated chemical fallowing. This

could possibly take place within degraded sections of the existing reserves. Both Derrimut and Laverton North reserves have substantial areas of *Nassella neesiana* in which all existing vegetation may have to be eliminated. *Themeda* will eventually be sown and re-established. With appropriate management, it may be possible to create spectacular, weed-free, synthetic vegetation on these sites. Interbreeding between planted and indigenous provenances and spread from planted areas are issues that would still have to be addressed.

There is another problem with relocation. While it is an easy matter to keep most species in cultivation, relocation of populations in the field is fraught with technical difficulties, indeed there have been few if any successful relocations into basalt grassland despite attempts with a range of rare species at Laverton North over a number of years. Most attempts at relocation fail. Every species has its own ecological requirements, and research, experimentation and appropriate management are required for each. Valuable research is now occurring on forb establishment within synthetic *Themeda* swards at Organ Pipes National Park and at Mooramong. Burnley is also conducting relevant research into artificial native grassland. If this research were to be conducted within remnant grassland, however, it could increase the intensity of impacts on recipient sites.

Ex situ conservation has the potential to also undermine attempts at in situ conservation, by precluding either land purchase by government or development controls. The more feasible relocation appears, the more likely that decisions made by landowners, planning panels and tribunals, and government agencies will allow development of grassland sites with the condition that significant species are relocated. Decision-makers tend to leap at any opportunity for relocation.

I would urge people not to relocate plants into biological reserves without authorisation. Conservation of donor sites could be undermined, record keeping (essential in ex situ conservation) could be made extremely difficult, species could be incorrectly sited in terms of microhabitat, and valuable sections of recipient sites could be physically damaged (potentially affecting rare site-indigenous flora or fauna). The unsupervised and uncoordinated removal and relocation of plants from donor to recipient sites would be a conservation management nightmare. It would undermine a key principle of sustainable management, that of reversibility. If uncontrolled introductions occur and then turn out to have been inappropriate, they may be irreversible.

Perhaps most importantly, all management of these reserves should be within the context of scientifically based management plans developed through a process of community consultation. As discussed above, some reserves may have a role to play in ex situ conservation, but their value for in situ conservation should remain paramount, and this is reflected in the Derrimut Grassland Reserve Draft Management Plan.

Ian's proposal is a valuable contribution to an important debate. Whilst I would support much of the proposal, I am particularly concerned that the inherent conservation values of the target sites may be overlooked and adversely affected. Accordingly I would like to qualify the proposal by suggesting another step in Ian's 'Path to Species Survival', as follows:

Suitable sections of grassland reserves, comprising predominantly introduced vegetation, should be converted to artificial *Themeda* grassland or other grassland habitats. Such areas should be used for ex situ conservation purposes, provided this is compatible with overall reserve conservation.

Ex situ conservation should not occur within existing native grassland, especially reserves, without a detailed management plan having been prepared that presents a clear justification for the proposal. Key criteria that should be met include:

- The provenance is appropriate.
- There is a strong and reasonable expectation that the species originally occurred on the site.
- The program will not deleteriously affect existing populations of flora and fauna on the relocation site beyond acceptable limits.
- The relocation will not cause weed invasion.
- The source area of the material either has no hope of being reserved or appropriately managed, or, if it has, the removal of seed and propagation material from the site will not be deleterious (N.B. Commercial native seed collectors have caused considerable disturbance to areas of high quality grassland that, while not now reserved, have a high chance of being so in future.)
- No better relocation sites are available.
- An appropriate research and monitoring program has been designed.
- Funding or volunteers are available to carry out the work.

- Jeff Yugovic, Mt Eliza Vic. 1 September 1992

References

1. Lunt, I.D. (1991). The Plains Wanderer: The Global Annihilation. *Indigenotes* 4(7) 2-3.
2. Lunt, I.D. (1991). The Plains Wanderer: Saving Regional Provenances. *Indigenotes* 5(7), 4-5, 10-11.
3. Rayner, C. (1992). Letter: Saving regional provenances. *Indigenotes* 5(8), 15.

IFFA AND FERAL TOURS
PRESENT
A FIELD TRIP TO
THE NORTHERN
VICTORIAN GRASSLANDS
AND MALLEE FRINGE

OCTOBER 16 - 18

Come to the country where every indigenous plant is a rare plant!

Nothing left, you say? Ravaged by rabbits and salinity? Not so. There are a few bits left, and given their surroundings, they look good! The bus will leave Melbourne on Friday evening and travel to Kerang. Saturday, we will be joined by some locals and the bus will travel to the Leaghur Forest where there is real ground flora in a Black Box forest and onwards to Boort where there are some excellent remnants in Yellow Gum woodland and mallee heath. Saturday night will be spent relaxing in rural surrounds, and Sunday will be spent on the plains before returning via the Terrick Terricks to the big bad city.

All sites have been selected for your maximum enjoyment, being restricted to a few of the best - allowing you a real look, rather than a flying visit. You will also be given insights into local management history, the effects of salinity and current methods of recovery from land degradation by Mr. Gyn Jones who has over 30 years experience in northern Victoria.

Accommodation is a choice of bed (for a lucky few), floor, tent or bivouac, unless you wish to pay for a real cabin or suite in town. Lunch Saturday, Sunday and a BBQ Saturday night are all part of the package.

The cost for the whole weekend is cheap, cheap, cheap at \$55.00 for paid tourers and \$45.00 for the economically disadvantaged.

For bookings and more information, ring Roger Jones AH on 372 1582 (A quick booking will be essential).

Employer's note: this trip fulfils Training Guarantee requirements.

Stock Routes and wildlife corridors

Early surveys of Victoria provided for a network of stock routes - routes along which sheep and cattle could be driven from one area to another. Many of these routes were roads three chains (60 m) wide.

With the advent of motorised stock transports, these routes are now mainly used only in time of drought, for the purpose of grazing drought-affected stock. At intervals there are commons which were used for overnight holding areas.

In many areas local councils permit adjoining land owners to erect temporary fencing, leaving the motor-way clear but using the unsealed area for heavy grazing or growing cereal crops.

Most of the routes and holding areas have never been planted with imported grasses and must therefore be a haven for indigenous grasses and other plants.

Other areas in the same category are stream frontages which adjoining owners are permitted to use, normally for farming pursuits, and usually one chain (20 m) each side of the stream.

We are desperate for wildlife corridors and there they are - ready to use - if our Government and local councils forfeit their peppercorn rents and make the land freely available for the encouragement of existing plants and the planting of "lost" species.

There may be an outcry in some areas that the land is needed for fire-breaks, but it is surely not a valid argument that some persons are entitled to destroy public property to protect their individual assets.

- John H. Arundell, Warracknabeal Vic.

Local plant and seed suppliers in rural Vic.

Greening Australia Victoria is currently compiling a Revegetation Directory for Rural Victoria. The aim of this directory is to provide a contact listing and other information to landholders, shire councils and other people in rural Victoria involved in revegetation and the management of remnant vegetation.

Would IFFA members living in the bush who are growing local plants for sale or who know of local plant nurseries and seed suppliers in their areas please contact Michael Enright or Jim Robinson on (03) 654 5040, fax (03)654 5040, or send to Greening Australia Victoria, C/o National Herbarium, Birdwood Ave, South Yarra 3141.

The Great Plains Crash: Grasslands in Victoria

The grasslands and grassy woodlands of Victoria are in a critical condition. Originally covering one third of the state, they have been reduced to less than 0.5% of their former area.

None of the usual measures used for nature conservation have proved successful for grasslands - today they face as great a risk as ever.

**IFFA and the Victorian National Parks Association are hosting
a conference**

on

3 & 4 October 1992

to describe the natural history of grasslands and grassy woodlands, and to determine what should be done to ensure their future.

Victorian University of Technology, Footscray

The grasslands conference will be of interest to Biologists involved in survey and assessments, Revegetation workers and managers of grasslands and grassy woodlands, Land-owners who wish to preserve remnants on their land, local government staff and elected officials, students studying relevant disciplines, members of Friends Groups who are working in grassland areas, those involved in setting policy directions for conservation, and those who have a general interest in natural history and conservation.

Your presence and input will mean that grasslands will not be ignored in the future.

Cost including lunches and proceedings:

2 days \$45 (Concession \$25)

1 day \$35 (Concession \$15)

IFFA and VNPA members are entitled to a discount of \$5.

For more information, or to register,

Contact: James Ross, VNPA, (03) 650 8296, Fax (03) 654 6843.

Program

Saturday 3 October

- Introduction and Overview. Dr. Jamle Kirkpatrick, University of Tasmania.
- Geology and Geomorphology of Victoria's Plains, Neville Rosengren, LaTrobe Uni College of Northern Victoria.
- Vegetation, Climate History and Patterns of Settlement. Roger Jones, Museum of Vic.
- Koori Life and Management of the Grasslands.
- Vegetation and Flora of the Volcanic Plains, Geoff Carr, Ecological Horticulture Pty Ltd.
- Invertebrates: Importance and Distribution, Environmental Survey Unit, Museum of Vic.
- Fauna of the Plains, David Baker-Gabb, Arthur Rylah Institute.
- New Surveys in the West and North, Tym Barlow, Habitat Works Pty Ltd.
- The Grassland Census, John Stuwe, DCE.

Sunday 4 October

Workshops, Sunday morning:

How to develop a management plan.

Protecting Flora and Fauna: viable strategies.

Indigenous Revegetation: practice or pipe-dream?

- Community Initiatives and Actions. Pam Thomas and Andy Govanstone, Friends groups.
- Fire and Grazing Management, Ian Lunt, LaTrobe University.
- Grasslands in the Back Paddock
- Private and Public Land Conservation. Keith McDougall, Habitat Works Pty Ltd.

There will also be time to discuss the content of the declaration which will present actions needed to preserve grasslands in Victoria.

Cat Control Seminar

A review by Fay Valcanis*

Fluffy the Cat, friend or foe? Domestic cats have become a regular news item of late. The Cat Control Seminar recently held (2/7) at the Institute of Animal Science provided a forum for the facts to be addressed.

In the opening address, the Hon. Ian Baker MP, Minister for Food and Agriculture, pointed out that of Victoria's 1.5 million cat population, each domestic cat is responsible for killing an average of 25 animals a year. He said "Cats are nocturnal hunters, be it in urban, rural or bush settings." Baker is a strong supporter of the proposed Companion Animals Bill and believes that, by giving cats legal standing, the need for responsible ownership will be faced.

Following his address, several further speakers elaborated various issues surrounding cats.

In studies conducted in 1989 by Dr. David Paton, zoologist at the University of Adelaide, residents were asked to record details of animals killed by their pet cats. Dr. Paton found that one in three Australian households keep domestic cats. On average each pet cat brings home five birds, 16 mammals and five reptiles per year. Dr. Paton said "Domestic cats take a diverse array of vertebrate prey despite being cared for and fed by their owners".

These studies showed that the presence of bells made little or no difference to the success of cats taking wildlife, with 50-60% of domestic cats with bells taking birds and mammals and over 30% still taking reptiles. In his talk, Dr. Paton outlined that "the demise of wildlife is caused not only to cats but to habitat clearance and predation by foxes. However, individual cat owners can help reduce the overall impact of cats on wildlife by being responsible owners...which secures the welfare of cats and wildlife." Responsible ownership means providing your cat with identification, confining it to your property, desexing it and keeping it in at night.

Another important issue is the relationship between the disease toxoplasmosis, cats and wildlife. Dr. David Obendorf from the Department of Agriculture Veterinary Laboratories, Tasmania, discussed the effects of toxoplasmosis on wildlife. Toxoplasmosis is a protozoan disease spread by cats. The cat is the only known carrier; the disease develops in their intestines and it is passed on in their faeces.

Toxoplasmosis effects the brain, intestine and

pancreas of wildlife and eventually causes death in infected animals. "Toxoplasmosis also effects the behavior of our native animals which increases their susceptibility to predator attacks and car hits. This disease is only spread by cats and has the ability to devastate wildlife populations..." said Dr. Obendorf. He went on to say that "cats don't generally show symptoms of the disease even if they are carriers." He stressed that "cat control is essential if we are to reduce the effects and spread of" the disease.

Dr. Carole Webb, Cat Protection Society, reminded us of the value of cats as companion pets. She stressed however that "owners need to be more responsible for their cats and ensure that all cats carry identification, either on a collar and tag, ear tattoo or microchip."

Dr. Webb pointed out that "cats over six months old should be desexed as this not only decreases incidences of wandering and fighting...it also increases their lifespan." "Night confinement," she said, "not only offers cats greater protection, it also reduces the risk of catching feline aids, the nuisance problems to neighbors and protects wildlife." With a claim rate of less than 1% of cats in animal shelters, the need for responsible cat ownership is essential.

The cat issue is not a cat problem, it is an owner problem. Dr. Hugh Wirth, President of the RSPCA, concluded that "cats are good for humans with regards to companionship, yet there is a need to manage cats and manage them in respect to their welfare." He went on to say, "there needs to be control of cat numbers, their reproduction and disposal of those that are not required. We can't live in a system where cats are uncontrolled."

Having a pet cat is a privilege and requires a lifetime of proper care. Being a responsible owner means protection for pets and wildlife. John Seebeck, DCE, discussed their new campaign, "Protect Your Cat-Protect Your Wildlife". The campaign aims to raise the community's awareness of the impact of cats on wildlife. Only by raising community awareness will the urgent need for identification, registration, desexing and curfewing of pets become apparent.

*Parkcare Officer Warrandyte State Park
Reprinted from Friends of Warrandyte State Park
Newsletter

St Albans Native Grassland Res.

After a battle spanning 10 years the St Albans grassland reserve has finally been protected by fencing and signposting. This was made possible by a DCE Community grant to the Keilor Plains Group of SGAP, financial support by Keilor Council, help by Priority Victoria workers from DCE and Friends of Organ Pipes.

The Minister of Conservation and Environment Hon Barry Pullen officially opened the grassland reserve on Sunday 30 August. The St Albans site contains a rich diversity of herbaceous indigenous flora including the endangered plant *Rutidosia leptorhynchoides* which now survives on the Keilor Plains at only one other location. During the last decade *Rutidosia* occurred at 8 locations on the plains but unfortunately these sites have been severely damaged in recent years. The St Albans site is also significant because it contains *Ptilimnium spinescens* and *Comesperma polygaloides*.

Ian Lunt's article "The Plains Wanderer: The Fencing Imperative" was the catalyst to focus our attention on fencing and finally get this site protected.

Any IFFA members who would like to help the restoration of *Rutidosia* and *Comesperma* at St Albans and the ongoing management of the site can contact Carl Rayner (03) 337 4936. Any assistance would be greatly appreciated.

Please note that there are a diminished number of *Rutidosia* surviving at St Albans and it is imperative that the plants at the site can revegetate naturally. Please do not collect seed unless it is for restoration at one of the major reserves on the Keilor Plains.

- Carl Rayner.

ROYAL AUSTRALIAN PLANNING INSTITUTE

(VICTORIAN DIVISION)

Continuing Professional Education Programme

CONSERVING VEGETATION AND HABITAT

COURSE CONTENT: Controls in the State Section of Victorian Planning Schemes provide major opportunities for the conservation and enhancement of vegetation and fauna habitats. But also, the administration of these controls poses a challenge for planners and others who have limited experience in the management of environmentally sensitive areas. This two day course is devoted to practical training, via seminars and field trips, in the principles and techniques of environmentally sensitive and responsible decision making.

Note that this is a two day course. It will be conducted on Thursday and Friday, October 8th and 9th, Committee Rooms, Municipal Offices, City of Doncaster and Templestowe, Doncaster Road, Doncaster.

COURSE COST: \$280.

This fee includes field trips, morning and afternoon teas and luncheons. Registrants are responsible for arranging their own accommodation.

COURSE LEADERS: Geoffrey Carr and Andrew McMahon (Ecological Horticulture Pty Ltd); Chris Johnston (Context Pty Ltd); Ian Gibb (Shire of Sherbrooke).

Enquiries to:
Patricia Riedl, Urban Studies Unit
Victoria University of Technology, Footscray Campus
P.O. Box 14428,
MMC, Melbourne 3000

Telephone (03) 688 4346, Fax (03) 688 4805.

LAND MANAGER (CONSERVATION)

Salary Range \$27,000 - \$35,000 3 to 5 days per week

The Victorian Conservation Trust is committed to the protection of remnant vegetation on private land. This new position has been created to ensure quality management of Trust properties and private land protected by Conservation Covenants.

Knowledge is required of habitat and bushland management. Relevant scientific qualifications would be an advantage.

He/she will have well developed communication skills and produce sound technical reports and educational materials concerning Trust properties and covenanted land.

Details of duties and conditions of employment can be obtained from Felicity Self 6514040. The VCT is an equal opportunities employer.

Applications should be forwarded by 2 October to The Director, Victorian Conservation Trust, 49 Spring St, Melbourne 3000.

Coming events:

Western Australia Wildflower Festival: Kings Park, Perth, 25 - 29 September

Organ Pipes National Park celebration 5-9 October. 1992 is the 20th anniversary of the proclamation of Organ Pipes National Park. To celebrate this event, the Friends are holding a festival in the park. School activities will be run throughout the week and a wide variety of exciting activities will be held on Sunday 11th October.

Program: 9.30-11.30am Community Tree Planting. 1.30-2.30pm Geoff Durham VNPA, 20 years in National Parks in Victoria. 2.30-4.00pm Nature walks led by FOOPs. Contact Carl Rayner.

Euroa Wildflower Show. 10&11 October, Sat & Sun, 9am-5pm. A fascinating display of native wildflowers at their best. Flowers and foliage, environmental display, videos: *Sights and Sounds of the Bush*, plant sales, craft sales, refreshments. At the Old Schoolhouse, Hume Freeway. Adults \$3, pensioners \$2, 13-16 yo \$1, under 12's free. Enquiries, Nolah Johnson (057) 90 3301.

Tygale Native Garden plant sale and open days. 17&18 October, 10am - 5pm. Numerous plants for sale - ferns, orchids, grasses. Several groups will be selling indigenous plants to the Tynong and surrounding districts. Adults \$2.50, children free. Tygale Garden, Weatherhead Road, Tynong North, Melways map 256, ref S5. Organised by the Society for Growing Australian Plants - Victoria. Contact: (059) 42 8216.

Koonwarra Native Flower Show: 21 November 11am-5pm & 22 November 10am-5pm. Floral displays, plant sales, environmental displays, children's activities, Devonshire teas. Gippsland and Northern Saleyards, South Gippsland Highway, Koonwarra. Adults \$1, children free. Show Coordinator: Barry Hill (056) 64 3259.

Conferences/Seminars

3-4 October. Grasslands Conference. For further details see page 5.

Environmental Restoration Seminars 1992. 7-28 October - Wednesdays 6.45pm-9.45pm. A series of four seminars. Six speakers, all leaders in their respective fields, have been chosen to provide practical and theoretical knowledge to all those interested in environmental restoration in the Geelong region. The series has been designed to develop an understanding of natural areas and areas being restored for conservation purposes. As well, the four seminars stress the importance of ecologically sound management practices when dealing with environmental restoration.

This rapidly developing field is of critical importance for the short and long-term survival of our indigenous biota. The widest possible audience is encouraged to attend. At Gordon Technical College. For further information contact Trish Edwards (052) 22 2936.

9-14 November. Towards a Better Understanding of Australian Plants. A symposium on Australian plants that ensures to cover the topic of indigenous plants, especially with the seminar for landscapers. Themes include: "Australian Plants in Landscaping and Amenity Horticulture" (Monday & Tuesday), "Australian Plants in Horticulture and Floriculture" (Wednesday and Thursday) & "Australian Plants for Home Gardening Enthusiasts" (Friday & Saturday). Sunday will be a special Karwarra Garden Open Day and grand plant sale. Organised by the Karwarra Garden Committee and supported by the Royal Australian Institute of Parks and Recreation, Victoria Region. At: Karwarra Australian Plant Garden, Mt Dandenong Rd, Kalorama, Victoria, Melways map 120, ref B9. Contact: Marilyn Gray (03) 728 5891.

Expressions of interest

Conserving biodiversity: threats & solutions.

Preliminary notice of a conference to be held at the University of Sydney. 29th June - 2nd July 1993. The New South Wales National Parks and Wildlife Service will host a four day conference on the conservation of biodiversity. The conference will be held at the University of Sydney as part of the 25th Anniversary of the Service.

The conference will focus on threats to biodiversity (natural species and systems) and will review the impact of these threats and the range of solutions available to counter them, to ensure the conservation of wildlife into the next century.

The aim is to define a framework for action, ranging from practical management in the field to planning and legislative requirements needed to sustain biodiversity into the 21st century.

Invited, prominent Australian and overseas speakers will present papers on the following topics:

Why conserve biodiversity?

Habitat loss and restoration;

The impact of exotic plants & animals on biodiversity;

Pollution & degradation of water resources; Changes to fire & climate;

Ecologically sustainable exploitation of biodiversity;

Can governments solve the problem?

Display space for poster papers will be available at the conference. If you are interested in submitting a poster paper or you would like to receive registration papers, please contact Lynda Wild, Conference Coordinator, National Parks and Wildlife Service, PO Box 1967, Hurstville, NSW 2220. telephone (02) 585 6417.

Workshops/Talks

September 28, Monday 7.45pm. **Communication in Seals**, by Dita Pahl. Marine Research Group of Victoria meeting. Theatre, Museum of Victoria (off Latrobe St). Clarrie Handreck (03) 870 3647 (evenings).

October 5, Monday 6pm. **Allozyme studies of endangered Victorian Eucalypts** by Yvonne Fripp (De-

partment of Genetics and Human Variation, LaTrobe University). Organised by the Australian Systemic Botany Society. Astronomer's Residence, Royal Botanic Gardens Melbourne. Corner Birdwood Ave & Dallas Brooks Dve, Sth Yarra. Tim Entwisle (03) 655 2313.

October 18. **Propagation techniques and materials:** information session organised by Men of The Trees. These take place following planting days - around 2pm. Yarra Bend Centre (Melways map 2D, ref G4). Virginia Brook (03) 347 5487.

October 19, Monday, 8pm. **Banksias, Birds and Continental Drift**, an illustrated talk by Graeme O'Neill. Organised by the Society for Growing Australian Plants - Victoria. Herbarium Hall, cnr Birdwood Ave & Dallas Brooks Dve, Sth Yarra. Enid Bowman (03) 882 5297.

Excursions and field trips

24-27 September. Fauna Survey Group, Show Day Campout. This trip is a continuation of the **Jilpanger Scrub** flora and fauna survey. Contact Felicity Garde (03) 808 2625.

26 September Sat. **Walk, Talk & Gawk: Brisbane Ranges N.P.** The flora of the Brisbane Ranges is of exceptional interest, and our leader Gretna Weste is a botanist who has intimate knowledge of the area. Orchids assured. Gretna (03) 876 1796.

27 September, Sunday. **Exploring Herring Island.** A beautiful 7 acre uninhabited island lies on the Yarra Fiver in the heart of Melbourne. Come and explore this fascinating Robinson Crusoe hideaway and look at its fascinating biology, geology, history and wildlife. Support the Friends of Herring Island who are concerned for the future of this extraordinary urban nature reserve.

Your support will help decrease the risk of adverse development such as a Convention centre, as well as having a very special experience. (A press release is planned for the same day). Meet at 11am outside the Wesley College Boat House, Alexandra Ave, South Yarra, Melways map 2M, ref D1. Parking is available in Alexandra Ave. Access to the island is by dinghy or canoe. The last boat to the island leaves at 11.45am. Don't be late. Bring picnic lunch and drink. Wear casual clothes and walking shoes or gumboots as there may be some mud. Contact Meyer 531 8824.

4 October Sun. **Walk, Talk & Gawk: Yarran Dehran.** Remnant bushland on the Mullum Mullum Creek which was threatened by the Easten Freeway proposal. Christine Kenyon (03) 803 3495.

17 October Sat. **Walk, Talk & Gawk: Wonthaggi Heathlands.** Leader Jane Calder has timed this all-day botanical stroll to catch the heathlands at their best. Bookings: W. Branagan (03) 818 6102.

24 October Sat. **Social walk with FO Werribee Gorge & Long Forest Mallee.** Judy Douglas (053) 67 2672.

24 October Sat. **Walk, Talk & Gawk: Dandenong Ranges N.P.** This all day nature walk will be

confined to the "Doongalla" with its spectacular Mountain Ash, Fern Gullies and stunning vistas. Leader: Geoff Durham (03) 523 5559.

24 October - 2 November. **Rainforest Riches - a botanical camping tour of Northern NSW** led by Ross Pearson and Tony Rodd. Part of the Australian Museum Society Program. Bookings: (02) 339 8225.

Restoration Activities

October

- 1 Thurs 10am-12noon. **Sandringham Community Nursery** - volunteers propagation activities. Sandringham Council Depot, enter Reserve Rd or Talinga Rd. This is on every Thursday and Saturday.
- 3 Sat 10am. **Green Link Box Hill** activities day. GLBH events are also held every Monday and Tuesday morning. Nursery work is held at the Council Nursery in Nelson Street, Box Hill, further details, contact Minette (03) 898 1364.
- 3 Sat. **FO French Island.** Pittosporum pull, return to the Barge landing with a walk via the forest. Fay or Clive Gordes (03) 772 9668.
- 11 Sun 3-5pm. **Green Link Camberwell.** Planting grasses and wildflower species, weed control & seed collection at the Welfare Parade Reserve. Meet at the corner of Dion St & Welfare Pde, Burwood (Melways map 60, E7). Dianna Burgess 809 2092.
- 11 Sun 10am. **URAGE** (Upwey Regional Action Group for the Environment). Weeding to restore indigenous vegetation along Ferny Creek. Rob Stephen (03) 754 3792.
- 11 Sun 10am-12noon. City of Heidelberg, **Timber Ridge: City of Heidelberg, Community revegetation day.** Melways map 20, ref J6, off Ovata Close. (03)490 4253. (Also on 25 October, at Banyule Flats; Melways map 32, ref G2, off Somerset Dve).
- 17 Sat. **FO Bradshaw Park.** Braeside Park visit. 580 2573.
- 18 Sun. 10am-12noon. **Brunswick Tree Group** Moonee Ponds Ck. Eric Ward (03) 388 2123.
- 18 Sun 10am-1pm. **Friends of Merri Merri Park.** Tour and activity day for new members. Melways map 30, ref C9. Barb Miles (03) 482 1618.
- 18 Sun 10am **Men of the Trees.** Deep Rock, Yarra Bend Park. Minette Russell Young (03) 898 1364.

The **Australian Trust for Conservation Volunteers** offer a wide variety of restoration activities throughout most of Australia. For further information contact ATCV: (03) 532 8512.

Apologies to groups whose events could not be covered in this issue of Indigenotes.

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

IFFA (NSW) meeting report:

What it takes to be an Aussie Fish

Summary of Sydney IFFA meeting held 3rd August, 1992, from Mariette Maclurcan

The Technical Officer of the fish section at the Australian Museum, Tom Trnski, addressed an audience eager to find out "What it takes to be an Australian fish".

Of the 20,000 fish species found throughout the world, Australia hosts close to 4,000 of these. However, unlike other continents only 3% of Australian fish species are fresh water fish. As Australia is such a large continent with a wide latitude range a greater diversity of freshwater fish would be expected. However, the dryness of our continent; the few isolated bodies of water; the high variability of water flow due to the seasonal variations; the small volume of water discharge and our long isolation from other continents contribute to our depauperate freshwater fish fauna.

Freshwater and marine fish

Only a few species are "truly" freshwater fish. The Australian lungfish and Saratoga can be traced back to similar ancient species found when Australia was part of Gondwana land. Galaxias species also are "true" freshwater fish. The remainder such as catfish, silversides, hardyheads are derived from MARINE species - ie they need an estuary or marine environment for breeding. The monsoonal areas of Australia support the greatest number of freshwater fish species despite the high evaporation and limited water flow in dry months.

Of the 14,000 world wide marine fish species 3,600 inhabit Australia. About 2,500 of these are coastal species, the remainder being deep sea or oceanic species. The physical diversity of the coastline with its abundant variety of habitats, our physical isolation, the climatic diversity found between the tropical and temperate zones and the marine currents/eddies have favoured this diversification. The majority of these species are found along the eastern seaboard which supports close to half of the total marine species in Australia. The Sydney Harbour region has particularly high diversity as it is in a transition zone of tropical and temperate species. In contrast western Cape York and western W.A. only have several hundred marine species because of the nature of the environment, that is no coral reefs, lots of sediment and high tidal range.

Threats to Australian fish populations.

Urban development, particularly subsuming

coastal land and dam construction poses a threat to fish populations particularly in the Sydney region. To date the direct effects of increased nutrients on the fish population are unknown. Fish are not immune to the effects of other human activities such as logging, mining and farming. Logging reduces the number of insect larvae available for the fish to feed on whilst pesticides and herbicides also affect the fish population.

The introduction of non-native species pose one of the greatest threats to freshwater indigenous fish. Trout and Carp, for example, are very aggressive food competitors and alter the natural habitat respectively. While heavy fishing practices on marine species such as the white shark and gemfish numbers has reduced population numbers to dangerously low levels.

There is an urgent need to further research the impact of human activity on fish and to determine ways to conserve our native fish population. A starting point could be the more appropriate and effective management of rivers and catchment areas.

For those interested in further reading on this topic:

- *Sea Fishes of Southern Australia. An illustrated field guide.* by Barry Hutchins and Roger Swainston 1986.
- *Fauna of Aust. Vol 1A: General Articles*, Aust. Govt. Publ. Serv. 1987.
- *Freshwater fishes of Australia* Allen, G.R., TFN Publications, New Jersey, 1989.

Tom Trnski may also be contacted at the Museum on (02) 339-8310.

Next Sydney Branch IFFA meeting to be held on Monday 12 October at 7.30 to 10 pm in the Maiden Theatre, Mrs Macquarie Rd, Royal Botanic Gardens Sydney. "Conservation genetics, what does it mean? How can we use it?" will be discussed by Derek Spielman, Chief Veterinary Officer, Taronga Zoo.

Snippets:

Native Cats in Victoria

Horace Wheelwright, in 1861, encapsulated the experience of most early settlers in southeastern Australia when he described the "little native cat" as "one of the commonest of all the bush animals". By all accounts the Native Cat (or Eastern Quoll as it is now known) was abundant in that area, and was persecuted by settlers due to its' alleged depredations upon poultry.

John Halifax, writing of the Lilydale district about 1880: "I have seen them running away from the carcass in scores on moonlit nights". J.S. Adams, Cape Schank District, 1880s: "Fences (chock and log) were infested with Native Cats" (Fisheries and Wildlife Division files).

Unnamed correspondent to Fisheries and Game Branch, 1934: "It is 45 years since they were abundant in the Warrnambool district...55 years ago, I was offered a bonus of 1/2 d a scalp...to trap these Native Cats...but I caught so many that the contract was ended."

J.M. Rosen, Gunbower District: About 1895...a plague of Native Cats appeared in the district, and numbers could be seen either day or night..." (Rosan 1945).

T.A. Brittlebank, Somerton District: "In 1882 at Somerton the Native Cats were so plentiful that they kept the rabbits down" (Brittlebank 1948).

However, about the turn of the century some epidemic disease appeared among Eastern Quolls and within a few years the population had been decimated. By 1923 concern was being expressed for the continued survival of the species, which was apparently only to be found in Victoria near Lake Corangamite, Studley Park and Gelantipy (Jones 1923, Le Souef 1923 and Fleay 1932).

In 1931 David Fleay trapped a number of Eastern Quolls at their last Western District stronghold, South Dreerite, where the animals were living in stone fences and rocky outcrops, and established a small captive colony at Melbourne Zoo (Fleay 1932, 1935).

In 1934, Fred Lewis, then Chief Inspector of Fisheries and Game proposed protection for 'native cats and tiger cats'. He sought information from his colleagues and the public concerning distribution, diet, damage and decline, particularly for 'native cats', and in December, 1934 advised the Under-Secretary that protection should be proclaimed. This was done on January 15, 1935 by proclamation of a closed season for the whole year for both species (Fisheries and

Wildlife Division files).

It was to be late for the Eastern Quoll. Fleay (1934) had already remarked upon the changed status of the species- "I was struck by the scarcity of the animals compared with the numbers observed there three years previously" and when, in 1936, R.T. Littlejohns was experimenting with automatic cameras in attempts to photograph the species near Lake Corangamite, he stated that "the species is almost extinct in most parts of Victoria". By the 1940's there were few reports- "To all intents and purposes this Eastern Native Cat...has disappeared from almost all of its former range, though...a small colony still lingers along the Yarra Valley right in Melbourne..." (Fleay 1945), and the last living specimen collected in Victoria was at Alvie-Dreerite in the 1950s, perhaps as late as 1958 (Fisheries and Wildlife Division files).

Eastern Quolls are, fortunately, still widespread in Tasmania, and, in fact, may have increased in abundance (Green 1973). Recently the population ecology of the species has been studied in that state (Godsell 1982), providing details of its lifestyle which might eventually be used in an attempt to re-establish Eastern Quolls on the mainland.

By John Seebeck, DCE [extract from Conley, D. and Dennis, C. (1984) *The Western Plains - A Natural and Social History*, Aust. Inst. Agricultural Science] Found in Land for Wildlife News August 1992.

Legless lizard found

Recently a landholder observed a small worm-like animal which had been uncovered whilst ploughing. A number of others were found in the furrow. The animal was taken to DCE's Ballarat Office to confirm its' identity. It was the Striped Legless Lizard *Delma impar*, a species classified as vulnerable in Victoria. The nearest locality for this species was some 100 km to the south. The property consists of introduced pasture and there were no inground rocks. It is interesting to note that previous searches for the Striped Legless Lizard have concentrated on remnant native grassland or areas with rocks that might provide shelter.

What is different about this find is that the landholder concerned is a member of Land for Wildlife and has set aside 15% of the property for nature conservation. Subsequently, the lizards have been found on two other Land for Wildlife properties in the area (Ararat vicinity).

Source: Land for Wildlife Newsletter August 1992

Conference report:

Working our Land to Death: Knowledge, Values and Actions

Melbourne University, July 12-14

Working Our Land To Death was an environmental conference held with the aim of gathering people from a large number of disciplines to discuss the problem of land degradation. This is my review of the speakers annotated with my own observations.

The Keynote Address came from Dr Kwi-Gon Kim of Seoul University who described the history of economic development in Korea and its relationship with the land. This is expressed in P'ungsui, or Chinese geomancy (known as Feng Shui in Hong Kong), which is going through a current resurgence of popularity after the recent development excesses Korea has experienced. The discipline is being included in University studies and looks like being a factor in future Korean consideration of land-use. Despite the fact that "testability" of the process is difficult and largely unexplored, it provides a traditional and philosophical basis that can account for nature in the way that the development ethic cannot.

What would our equivalent to P'ungsui be? The dreaming, or perhaps Christian pastoralism à la Francis of Assisi?

One interesting point is that Professor Kim described the paradigm shift in Korea 1945-71 as "muddling through". The resultant murmur showed over half of the audience thought that of Australia today. Muddling across the level playing field, perhaps.

DAY 2

Bill Lines, Author of *Taming the Great South Land* (1991), began with the theme of conquest dressed up as progress. He had some harsh words for conservationists who aided "progress" by using utilitarian (economic) justifications for saving nature. If you love it, you should say so, he maintains, and not try to justify an ecosystem's future by stressing its value as a genetic resource. He also had some harsh words for science as the overseer of progress, finishing with the theme that ultimately, development is death.

The next couple of papers were presented by agriculturalists, theoretical and practical. The first, by Egan and O'Connor of the School of Agriculture, went so fast in reverse from Lines it was in red shift. It took a highly reductionist tone (by understanding the water cycle, we can stop land degradation), advocated a kinder, gentler green revolution and maintained that action was hampered in the lack of complete scientific knowledge. Bunkum.

Walters and Rivera, from the CRC for Soil and Land Management, SA, dealt with conservation farming on

broad-acre tillage. The news was ok, but limited, and accepted too easily: the high use of chemicals when soil cultivation is reduced should be challenged by newer, better techniques. Good news, but tinkering around the edges. When questioned about the place for nature on the farm, Rivera said they could exist side-by-side in less fertile areas. More fertile areas are presumably given over totally to agriculture. Fertility, or the lack of it, should not dictate where we let the bush live.

Peter Small, a farmer, repeated that conservationists from the city were giving farmers a hard time, with the old saw that if they were looking from where farmers are, they would see things differently. He questioned the efficacy of trees on farms (they hadn't provided a quick fix, and salinity was occurring where trees originally did not! Surprise.), and returned to the theme that only economic development could save farming in the long run. Again, he was stifled by a general lack of understanding of the situation.

Mr Angus Pollock from APM continued with a gentler theme of forestry than we might hear from the Forest Industries Association, and talked much of import replacement, as we import 1/3rd of all our forest products: \$1.6 billion per year. He did say that the sustainable working group's definition of forests was "a group of trees, whether planted or not, with a height of over 5 m and a cover of >30%". This is not a botanical description, and John Bradsen the next day, said that the Scandinavians had run into strife with a similar definition in their forest management when their forests began to decline. They then had to move to forestry management that included biodiversity as the bottom line. 'Nuff said.

George Littlewood from CRA, spoke for the mining industry, and repeated the oft repeated statement that the mining industry uses 0.02% of Australia's land mass directly, but is not allowed on to 25%. He also said that it was immoral to pass on a degraded economy as well as a degraded ecology. Isn't our current system doing both? And what of the issue that at places like Roxby Downs, where groundwater pumping is threatening a far larger area than the mine, including the ecology of mound springs already damaged by the pastoral industry? And who takes responsibility for downstream processing?

Johnston and Berman presented environmental research policy in Australia. I don't understand how policy is collected and implemented because we rarely see it at work. However, they said there has been enough data collected to work with so let's get on with it.

Finlayson and McMahon spoke on the funding and conduct of environmental research, calling for proper peer reviewed research out of government departments, and more co-ordinated interdisciplinary funding from the highest levels. They also presented yours truly's work at Keilambete and it's implications for salinity which were not being explored by in-house government research programs. For example, if the climate is drier, and water-tables are rising, was native vegetation more water efficient than is assumed? Water intake by vegetation has still not been quantified: salinity management is still largely "best bet" management.

Prof. Webber from Geography argued the devil's advocate on science, already differing from his written paper. His basic thesis was that science could not solve the problems of land degradation because the processes are known and can be measured, but this will not provide the solution. He also sank the boot into science as a cause of degradation, but on the basis of the earlier part of the argument, how could science have caused the problem if the applications of scientific solutions are technological and social? And his clincher: what good is natural science if there is no natural? The alternative, he said, was a fractal Disneyland of bio-engineered organisms.

Joni Seager from the US provided a feminist critique of science and also sank the slipper into the patriarchal methodologies of science that caused the problems in the first place. She went on to say that women were the main indicators of environmental damage, and until science admits them into its process, it is invalid. One of the first steps may be changing the nature that discussions are held in science. Often they are very macho and argumentative, whereas women would prefer to have their discussions in a more supportive, less aggressive, environment. The confrontational nature of men's discussions must put women off, if men are not putting women off directly.

Science had a hard time that day, and the discouraging thing was, the people who advocated it most appeared to be advocating the least upheaval of ideas and attitudes to redress land degradation. Depressing.

DAY 3

Robert Goodin, a philosopher from ANU, offered the opinion that green taxes were akin the payment of religious indulgences after sin, ie that they did not prevent sin from those who were able to pay: the polluter's price is right. This is, of course, a position divorced from economics and will therefore be mighty unpopular, as it advocates zero pollution. From an ideological position, would it encompass the issue of breaking wind?

Dr Eric Wilmot, Dir. of Education in SA, came to speak about Aboriginal and white values to the land. He said that the Aboriginal (in the global sense) and the modern mind diverged in the Neolithic. This was tested by the Piagetian psychologist, Seagram, who found that Aranda and western cognitive vales became quite different in childhood. Wilmot said that Suzuki failed in his quest to find how the wisdom of the elders that cares for the land exists, and at any rate, it is impossible to return to. The western mind cannot go back to that state of thinking. Wilmot maintains that the only way to look is forward, and that the coming dying (the population-driven cataclysm) sometime next century, may forge a new mind that can encompass western thought and reverence for the land. He said that educators are actually attempting to give children the education that broadens their cognitive skills and freedom of action, with at least half an eye on their having to deal with the consequences of ecological breakdown.

Dr Freya Mathews from La Trobe, gave a philosophical outlook borrowing heavily on deep ecology and eco-feminism. She summarised our early history as setting us apart from Australia. The spirituality of the land, which is universal, is also ignored, to our and nature's loss. She suggested that this problem of alienation could be faced by partaking of native foods, however, had reservations about farming native animals and farming per se. This involves the old dichotomy of natural/unnatural at the hunter-gatherer/agriculture split. The problem is, the Koories did a lot of one and some of the other. At what level of technology does your implement or tool lose its naturalness. When it is made with extra-somatic energy? Going back to Wilmot, the difference between the "ecologically stable" hunter and the "progressive" farmer is cognitive, and it would be very brave to call what is presumably an evolutionary process within human cognition an unnatural process on the basis of external factors.

Susan Dodds from Wollongong presented a paper on property rights and the environment which was also conceptual. The concepts described would be useful for those setting the philosophical grounds for arguing how property should be legislated.

Evan Walker described how government policy can effectively bring about environmental change. As one of the former state Government's better ministers he is well qualified to comment, and described the processes which were set up as part of the salinity program. Much of that policy involves the community, and is one of the best programs running anywhere in the country. What you can say about the labour government is, I suppose, when they

Conference report: Working our Land to Death: Knowledge, Values and Actions (continued)

were good, they were very good, and when they were bad, they were atrocious.

John Bradsen is an environmental lawyer from Adelaide Uni, who talked about the role of science, attitudes, economics and law, and expounded on the role of law in halting land degradation. He advocates a flexible structure of legislation with very clear goals to establish programs which involve specialist input. So, rather than local government reviewing specific planning applications which have an impact on degradation, such as clearing, it should go to a skilled review panel. These processes should themselves be reviewed every couple of years to make sure their established goals are being met. This does not involve cobbling together existing programs, which will not work if the goals are not defined.

Sharman Stone, who did the first social studies of degradation (salinity) on farming communities in Victoria, spoke of changing the culture of the farming community. She described the farming creed, the ethic, which is as strong today as ever and expressed it as seen in groups such as the VFF. Farmers cannot reach out and ask for help, she maintains; it is not in their culture. Over the past 20 years consumers have begun to demand better "land care" as well as their high quality primary produce. Income and expectations in the city have outstripped those in the country; farming is not producing the income to achieve the environment that consumers are beginning to demand. As a result, interest groups promoting changing values have been seen as the enemy in the bush. (What might surprise many conservationists and farmers, is that while their politics may be vastly different, their wish for independence, and a belief in the intangible benefits of life-style are very similar.)

A huge number of farmers now are part-time, but have not been accepted into the traditional farming community. The people in the city, while making their demands as consumers have little awareness of the rural plight. However, farmers need to be more aware of the common goals that all can work toward, and realise that while one person's freedoms may be expressed differently to another's, the responsibility for the land should be expressed universally.

She mentioned two processes that are being used to overcome some of these problems. The first is under the state salinity program, where regional salinity plans utilising scientific data under a local group are formulated. Once drawn up, it is subject to scrutiny by smaller groups of farmer clusters. These groups have their say, and the plan goes back for reworking. After that, the plan forms the basis for future management. This has worked well in northern Victoria, but funds are dwindling somewhat, reducing its effectiveness.

The other, is the general responsibility of the community. If consumers demand good products and healthy land, they have to become involved in that process. This includes rural-urban exchanges, voluntary work on rehabilitation

projects and a real effort by the urban population to get out and find out how the country works. Secular self interest by individuals or groups, dressed up as "rights" is counter-productive.

Archbishop Peter Hollingworth spoke on conservation and social justice within a Christian framework, drawing heavily on the work of Charles Birch. He referred to dominion and stewardship as expressed in the Bible as having many meanings, including those implying the ruler as a servant of its subjects. Dominion, in this Christian framework, does not mean doing what you bloody well like (my words). It is time for the church to return to creation and nature.

The concluding comments came from Max Charlesworth, who had a bit of fun, describing himself as the only Suzukiphobe in the country, saying it was impossible to borrow eclectically from other cultures, because you lose context. He had a few barbs for the limits of science, romanticism and sloppy thinking. This is a good point. A few people were dismissive of qualitative concepts as opposed to quantitative, but a bit of sharp thinking can cut through a heap of bullshit.

He offered the model of ethical committees as a method to affect behaviour: ethical committees are having a significant effect on the way much research and treatment is carried out in biomedical fields. What if ecological committees were constructed to do much the same thing for land management? This may help the development of goals for legislation and management, particularly as expressed by John Bradsen and Sharman Stone.

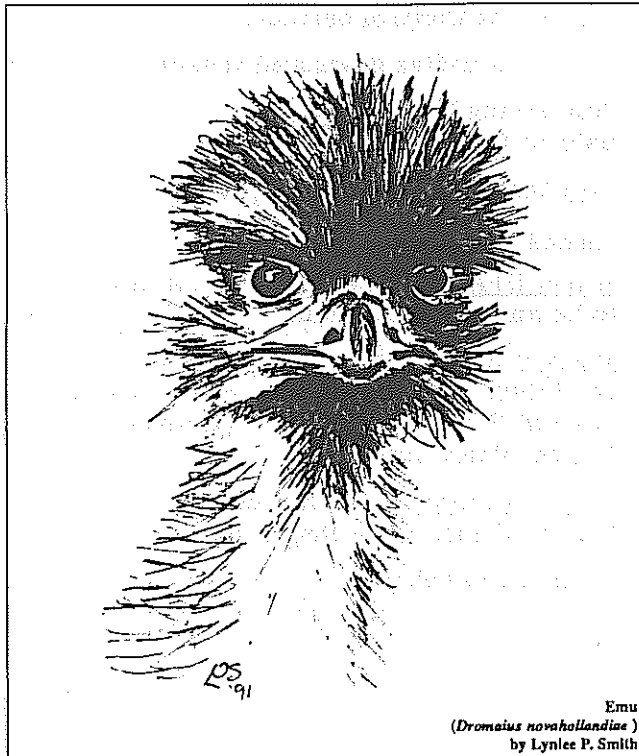
There the conference ended. There was a series of group discussions on the second day, but these were poorly framed with few defined goals, so were of limited use. The purpose of the conference was not totally clear, but the two days and an evening were worth it. However, without Stone's contribution, and to a lesser degree, Wilmot and Bradsen, the whole thing would have been a fizzer. And when will presenters stop reading their papers (boring), and define a few of their academically loaded terms to the audience?

Perhaps the next step is to look at the schemes operating in different states that work and to begin to devise models for legislation and management. Models that have clear goals, have review processes for regular feedback and modification, are integrative, stressing co-operation rather than coercion, and that can be clearly viewed by the community, as opposed to the great mysterious morass of policy that occurs today. While this has a public component, it is not at all clear what is going on.

Meanwhile, if environmental regulation tries to encompass the demands of farmers and foresters and miners and conservationists and scientists and economists in the current atmosphere of compromise it is doomed to fail. The same problems exist when planning is carried out by general

administrative bodies.

I have copies of most of the papers from this conference, so if any of you are provoked by particular snippets, I will supply the complete paper.



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Designer Eucalypts

A recent article in *The Age* (6/8) contained the news of the first transgenic eucalypt (manufactured, that is. Goodness knows what this malleable genus gets up to in the wild!). The news was released as part of the official opening of the new Co-operative Research Centre for Temperate Hardwood Forestry in Hobart.

This article prompts two issues, neither of which have been discussed in the general media. The first is the use of genetic manipulation to produce trees which will decrease the cost margins in large-scale forestry. As forestry is an industrial process based on bulk, the cost margins become very important in the profitability of the industry (particularly when commodity prices are low, and will continue to be so for some time.). This means that the tree which will reduce uncertainty in the forestry process will be favoured. Some of the attributes that are desirable are growth rates, uniformity of timber quality, fibre quality, resistance to insect attack and so on. large scale plantations will also aid the process.

The first gene implanted in *E. camaldulensis*, is a flag or marker gene, which is used to accompany other genes into the plant cell during the cloning process. These other genes will have the desired attributes for the target tree. One of the first prospects is a flower abortifacient that could yield sterile plantations which would not outcross with wild populations. An excellent thought for environmental weeds.

Monoclonal plantations may be very well as a resource base for forestry, but will herald the removal of forestry from forests. New plantations are unlikely to hold many of the values that forest ecosystems hold. Some of a few of those values are wildlife habitat, biodiversity, aesthetics and so on. Are large monoclonal (or even several clones) plantations sustainable in the long-term, or will they move natural biological competition into a new area? A plantation will have a single purpose: production, and it may be very difficult to use these areas for any other values.

There will be no benefit from introducing these trees into agricultural areas, because the farm tree must be multi-purpose, and the farmer does not have an operation large enough to justify designer eucalypts. Which brings up the question that has been addressed by few conservation or forestry groups. If plantations are demanded, and they will be planted with monoclonal varieties in the future, where are they going to be put? Something for all to think about.

The other issue is that of Co-operative Research Centres. There are currently 35, of a possible 50. They are required to be funded both publicly and privately, so would be expected to have a mainly industrial focus. A glaring gap in those established so far, is any area of interdisciplinary area concerning ecological assessment and its integration with human activities. It is difficult to see how this can be covered in the present structure, but is certainly one of the most critical areas where we do need research excellence and adequate funding.

- Roger Jones

IFFA activities:

IFFA (Vic)

Next meeting:

Tuesday 29 October at 8 pm at the Herbarium Hall, Birdwood Ave, South Yarra (Melways map 2G ref 12A). Felicity Faris from VNPA will speak about the Threatened Species Network. All welcome.

Committee meeting:

Tuesday 6 Oct venue to be determined. 6.30pm onwards. Contact Michele for details.

SPIFFA

Mon Oct 5 Waterfall Gully Citty Centre, Cnr Bayview Rd and Nixon St, Rosebud South at 7.30 pm. Contact Mark Adams (059)851122.

Grasslands Conference

October 3 & 4, jointly organized by IFFA and Victorian National Parks Association. Contact James Ross VNPA (03) 654 6843 for more info.

Indigenous Nurseries Network:

Sept 29 Sept. Tuesday 6.30pm. (before main IFFA meeting). Contact Murray Ralph (03) 419 3040 or Sue Mills (03) 383 2937.

NSW activities:

Next meeting:

Monday 12th October, 7.30 - 10.00pm at the Maiden Theatre, Mrs Macquaries Rd, Royal Botanic Gardens Sydney. **Conservation Genetics. What does it mean? How can we use it?** A talk by Derek Spielman, Chief Veterinary Officer, Taronga Zoo. Derek will describe concepts such as evolution, extinction and viable populations and their true value to practical work in conservation and the ultimate goal of maximising biodiversity. He will also discuss both theoretical and practical examples of introducing other genes to isolated populations. Contact Sally Fisher (02)9706486 (work), Penny Brown or Andrew McGahey (02)9133681 (work)

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Contributions to *Indigenotes* should be sent to the editors — the deadline for the next issue will be 1 October.

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