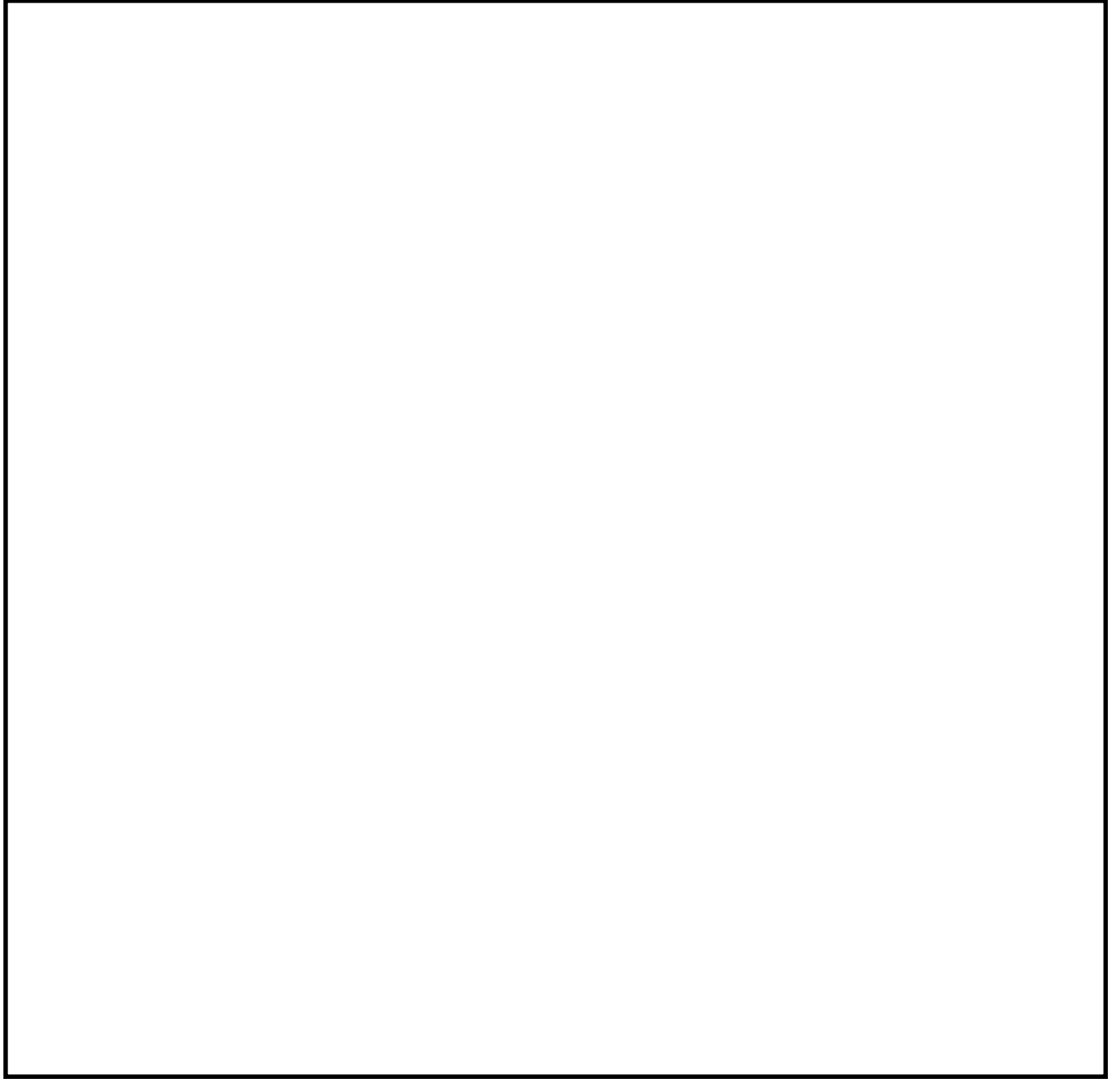


INDIGENOTES



Innovations in Restoration Technology

By Scott Watson

As Australia is not the only country that undertakes restoration and natural vegetation management, it is always interesting to note what others are doing around the globe. The following information comes from various editions of Restoration and Management Notes, a journal from the USA. The following information comes from a section called Tools and Technology.

In California, some 'professional restorationists' have come up with a tractor-mounted device to inoculate the soil with mycorrhizal fungi¹ (St.John, 1996). Similar to a tractor-mounted direct-seeder, the device creates a furrow into which a set rate of inoculum is delivered, followed by seed that is separately sown and pressed over the furrow. The inoculum is placed between 2.5 - 15 cm below the seed and the lines are placed 30 - 60 cm apart. The position is important because the roots of the seedlings must encounter the fungus within the first few weeks after germination. The results on test sites in coastal sage scrub vegetation showed higher survival rates (five-fold) and higher plant diversity (two-fold) than control plots. The author suggests there was some improvement also to soil structure, improving infiltration, aeration, reduced erosion and better root growth.

Along similar lines, the feasibility of introducing fungi decay into trees using ballistic devices has been explored in Utah (Anon., 1996a) Modified bullets loaded with inoculum have been fired in to trees in an attempt to create cavities suitable for wildlife occupation where hollows are not typically present. A lever action Winchester rifle was more successful than a semi-automatic shotgun and generally two shots are required for successful inoculation in 30-40 cm diameter Douglas-firs.

In Nebraska, commercial leaf blowers are being used for prescribed burning of prairies to both re-direct and put out fires (Stubbendieck & Mitchell, 1996). These are the same style of leaf-blowers we see used by Jim's Mowing and compared with a knapsack water sprayer they are cheaper and much more lightweight. Air speeds of 240 km per hour enable the operator to extinguish a fire when walking at 4-5 km per hour. The blower works best with mown and raked fire lines or grazed pasture. Heavy litter and tallgrass prairie is more difficult to deal with and fallen deciduous leaves could be ignited and unintentionally spread. Another limitation of the unit is noise which could hamper communications.

In Pennsylvania restorationists appear to be having some successes with transplanting remnants facing imminent destruction. Munro (1994a) has developed equipment to salvage 'modules' of plant communities that are 2 x 1.2 x 0.3 m. This basic unit, carried in a metal and wood reinforced

transport pallet, enables the successful transplanting of herbs and shrubs. The modular sods are lifted with a front-end loader mounted cutting implement. Pallets can be moved with fork-lifts and they are transported on flatbed trucks. A metallic hoe holds the intact sod in its new place as the pallet is slid out from beneath the sod. Munro (1994b) has also developed a lighter-weight sod peeler that can be used with either a standard or low ground-pressure tractor, fixed-point winch or draft-animal(!). With one person controlling the peeler from behind, a 1.2 m sod is cut 2.5 to 20 cm deep. Stumps, rocks and large plants upset the operating of these devices. The author comments that if the hydrological characteristics of the transplant site are not the same as that of the donor site, dormant propagules often compensate for the change and shift the species composition.

At the Davis Arboretum in California research has confirmed the effectiveness of using soil-binding compounds for controlling erosion on steep slopes (Anon., 1996c). Tackifiers, including a vegetable based material called Eco Tak-OP, reduced sediment run-off and assisted the survival of grass plugs.

Mangrove seedlings have successfully been established in Florida by inserting the seedling into a soil encased PVC pipe which is then submerged (Anon, 1996d). The pipe is 3.8 cm in diameter and 30 cm is buried with the remainder extending to the high rise mark. The pipe, which is cut longitudinally for easy removal, protects against wave and tidal action for three years.

In Oregon (Anon, 1995a) the Department of Transportation have developed a coded matrix signage system that alerts the public to a significant roadside without disclosing the nature of the significance. The coded matrix allows maintenance personnel to understand the required management activities.

In the Mississippi's Yazoo National Wildlife Refuge line-charge explosion techniques have been used to create wetlands and drainage ditches resulting in significant cost savings and taking only half the time as conventional methods (Anon, 1995b).

In another modification of military technology, the Central Intelligence Agency is using satellite reconnaissance techniques to map rare desert tortoise habitat in the Mojave Desert (Anon, 1996b). The CIA are also using remote sensing to map wetlands and water temperature in salmon streams. Findings are only available to researchers with security clearance!

Restoration and Management Notes can be found on the shelves at the library of the Horticulture College in Burnley (part of the University of Melbourne). You may also find it

elsewhere.

References

- Anon. (1995a). Tools and Technology Note no. 232. Restoration & Management Notes 13:2
- Anon. (1995b). Tools and Technology Note no. 233. Restoration & Management Notes 13:2
- Anon. (1996a). Tools and Technology Note no. 199. Restoration & Management Notes 14:2 p.187
- Anon. (1996b). Tools and Technology Note no. 202. Restoration & Management Notes 14:2 p.187
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- Anon. (1996d). Tools and Technology Note no. 203. Restoration & Management Notes 14:2 p.187
- Munro, J.W. (1994a). Equipment developed to salvage plant communities. Restoration & Management Notes 12:2
- Munro, J.W. (1994b). Lightweight sod peeler available to restorationists. Restoration & Management Notes 12:2
- St John, J. (1996). Specially-modified land imprinter inoculates soil with mycorrhizal fungi (California). Restoration & Management Notes 14:1

1 beneficial fungi that assist plants to acquire nutrients and moisture.

Information Needed: Propagation and Management of Rare Annuals

Over the last few years the Flora Management Team (FMT) at Warrandyte State Park have had a considerable degree of success with the propagation of regionally significant species threatened with extinction within the park. The plants have been grown by the "Friends of Warrandyte State Park" and subsequently planted out in the park as part of a species enrichment program, with the ultimate aim that a viable population will be obtained. The species, which are all herbaceous or woody perennials, were grown either from seed, cuttings or root division.

This year the challenge is to grow the tiny annuals, most of which occur in the Park in extremely small numbers, usually at only one or, at the most, two sites. It is probably not the best year to embark on such a project with a long-term drought predicted, but because we do not know how long the seed we collected from the annuals last year will remain viable, it was decided to go ahead.

The following nine species were sown in commercial propagating mix on July 12th 1997:

Aphelia gracilis (Slender Aphelia)
Brachyscome perpusilla (Rayless Daisy)
Hyalosperma demissum (Moss Sunray)
Isoetopsis graminifolia (Grass Cushion)
Millotia tenuifolia (Soft Millotia)
Mitrasacme paradoxa (Wiry Mitrewort)
Myosotis australis (Austral Forget-me-not)
Stylidium despectum (Small Trigger Plant)
Triptilodiscus pygmaeus (Common Sunray)

Six of the nine species germinated one to two weeks after sowing. Four weeks after sowing, only one species had not germinated, and that was *Stylidium despectum*.

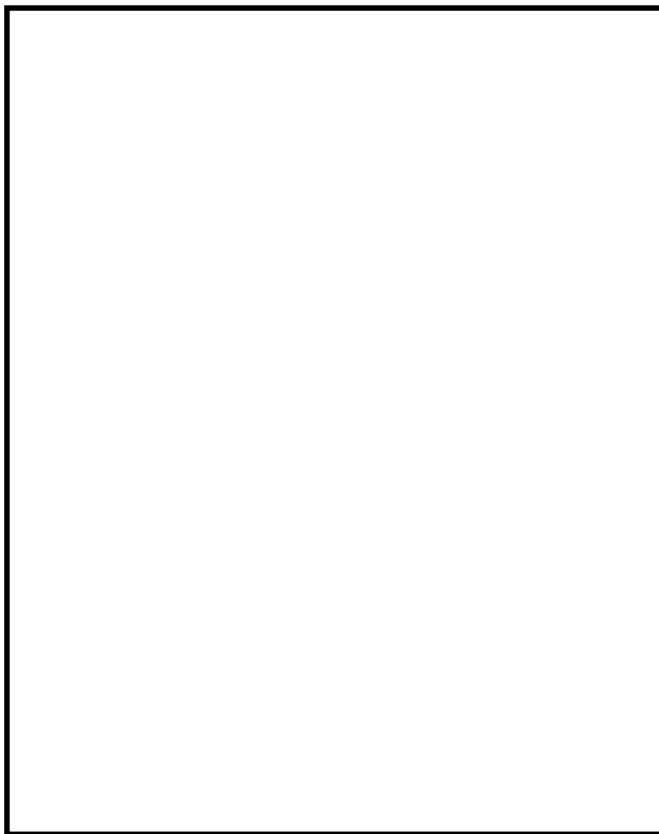
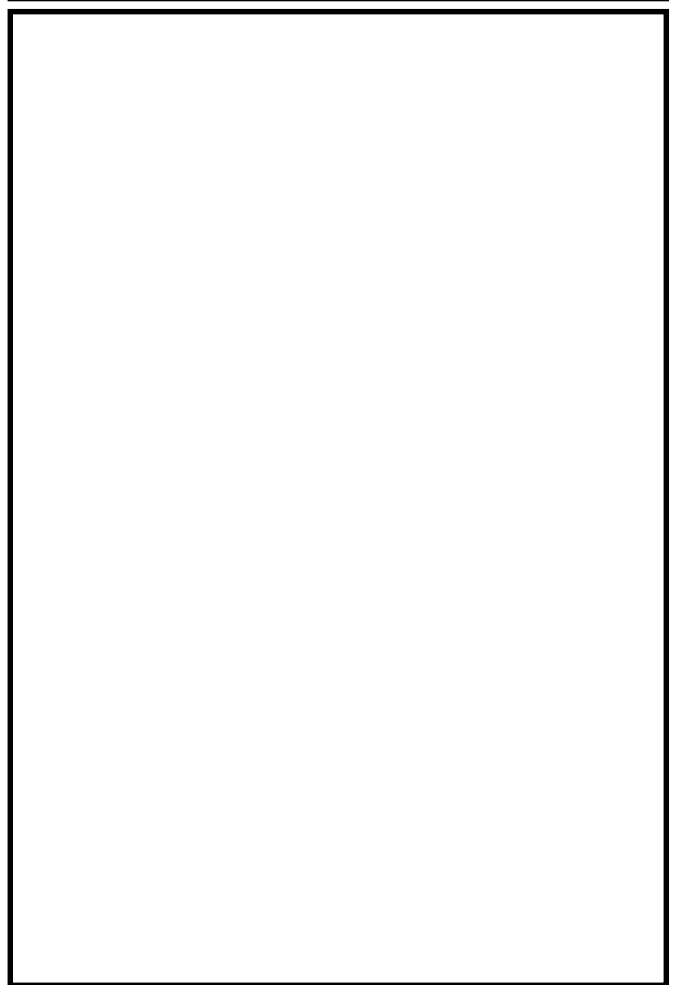
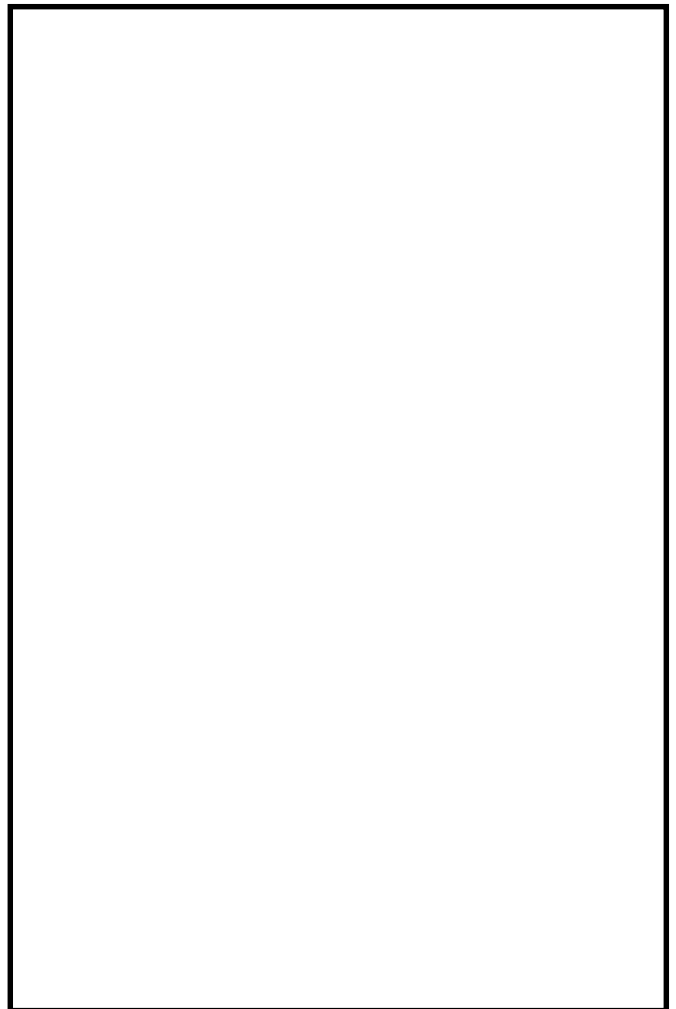
The ultimate aim of this project is to increase the fragile populations of these plants in the Park, either by propagating the plants and harvesting the seed for direct seeding in appropriate sites, or by planting out the annuals while actively growing to allow natural seed drop.

If anyone has had any experience propagating any of these tiny native annuals or can offer advice on the management of existing populations, please contact either David Van Bockel at Warrandyte State Park on (03) 9844 2659 or Pat Coupar (03) 9844 1650.

"Transportation" of Possums Now Illegal

Research conducted through Deakin University in the early 1990's showed that the majority of possums trapped in suburbia and "transported" to the bush died once they arrived from competition with resident possums and auto accidents among other problems. Transportation of possums emptied suburban yards of possums but ended up killing; people thought they were doing the "kind thing" but it was actually incredibly cruel to relocate possums. And it didn't solve the possum problems in suburbia, another possum would quickly fill empty territory. The old catch and release elsewhere methods do not work.

Well, the law defining reasonable possum treatment has now changed to reflect these research findings. (Scientific research does lead to change...) The Wildlife Act 1975 was amended in June 1997 to prohibit the transportation of possums from their home territory. The new government policy and law is to encourage the accommodation and management of possums in their territory, ie. suburban backyards. If residents do not feel management is "practical" they can only take a "problem possum" to a vet to be killed humanely, not the suffering deaths they went through after transportation to bush out of the city. To that end the law was changed and an informative booklet has been published; excerpts are presented below. To obtain the booklet contact the Flora and Fauna Branch, DNRE on (03)94124175 or the RSPCA on (03)98085111.



Habitats Up in Smoke

What would you say is the largest Victorian product by volume? Saw logs? Pulp wood? If either of those is your answer, you're wrong! It's firewood. As much as 2,500,000 cubic metres of timber goes up the chimney each year.

The Victorian Department of Natural Resources and Environment has long been concerned about the impact of the activities of firewood collectors on native habitat. They took the opportunity presented by Environment Australia's Native Vegetation Program to commission consultants Read Sturgess and Associates to do a study of the interaction of supply and demand in the Victorian Firewood market. The consultants found that the households were likely to collect more wood than they purchased, that the wood was more likely to come from private than from public land, and that substantial quantities come from interstate.

All of these factors have policy implications, but some are more amenable to governmental intervention than others. For example, further regulating collectors' access to public forests would be of little merit if it only increased the pressure on privately owned forest. The consultants used cost-benefit analysis to weigh out the pluses and minuses.

So what's the bottom line? Firewood collection need not always conflict with habitat values but when it does each case needs to be considered on its merits. The analysis of costs, including administrative costs, and benefits can be used to test the merits of intervention. Intervention will only be warranted where benefits are likely to exceed costs. The consultants looked at the range of interventionary instruments currently available to the Victorian authorities and concluded that they are adequate. Indeed, in the case of private land, Land Management Cooperative Agreements may be more likely to engage landowners' sympathies than planning controls and conservation orders.

Similarly, the present system of licensing firewood collectors, both domestic and commercial, on public land has the potential to produce an economically desirable mix of firewood harvesting and conserving wildlife habitat. Roadsides are an exception to this. Their extreme vulnerability probably means there is no alternative to stringent direct controls in those cases where the social benefits of conservation can be shown to exceed the costs.

And what if the demand for firewood in Victoria continues to grow increasing the pressure on Victorian forests? Victoria is already partially exporting its problem by importing firewood from interstate. The consultants took a hard look at the economics of producing firewood from farm woodlots. The big obstacle for such a heavyweight low value product is transportation cost, but the consultants produced budgets that indicate that plantation firewood, if sold at source or nearby, can be made to pay. They suggest that as the needs of regional centres could be supplied economically from this source, in the longer term it "may be the appropriate way to reduce pressure on wildlife habitat on public lands."

(Read Sturgess & Associates, Supply Demand Issues in the Firewood Market in Victoria; Department of Conservation and Natural Resources, Victoria, Australia, 1995 for Environment Australia. Copies of the full report can be obtained through interlibrary loan from the Environment Australia Library)

Source: Bushlines Newsletter, No 10, July 1997. pg 8 & 9.

Grassland News: GERG Research Projects Completed

The Grassy Ecosystem Reference Group (GERG) sponsored several research projects in the 1995-96 financial year. Most of the projects funded have now been completed.

We often lament the fact that so little genuine research is conducted on the ecology of grassy ecosystems, and while this may still be the case, it is indeed heartening to see the results of minimal funds provided by GERG.

The 1995/96 research projects successfully conducted were:

***Allocasuarina* invasion of unburnt grassy woodlands: long-term monitoring of structural and floristic changes**
Ian Lunt, La Trobe University

Monitoring small scale spatial and temporal dynamic of plants in basalt plains grasslands.
John Morgan, La Trobe University

Investigation into alternative detection techniques for *Delma impar*
Chris Banks, Striped Legless Lizard Working Group

Field Trials of methods to control *Stipa neesiana* and replacement with *Themeda triandra*
Rachel Dare, VUT St. Albans, MCMC, City of Moreland

Past and present management of native grassy ecosystems on farms in the Wimmera
Kate Stothers, Melbourne University, Trust for Nature

Monitoring of grazing exclusions in *Allocasuarina luehmannii* woodland remnants
Lisa Morcom, NRE and Martin Westbrook, Ballarat Uni

Spatial and temporal changes in biomass of macro-invertebrates in basalt grasslands and the effects on Fat-tailed Dunnarts
Reuben Montaro, VUT St. Albans

The effects of management practices on *Microlaena stipoides* productivity, feed quality and persistence in north east Victoria
Catherine Allen, University of New England

Invertebrate diversity of native grasslands
Sue Hadden, Ballarat University

The reports have all been submitted and "plain English" summaries should be available in the near future from Vanessa Craigie, Grassland Coordinator, DNRE, Ph. (03) 9412 4199, fax (03) 9412 4586 or email: v.craigie@dce.vic.gov.au

Research Project Seminar

A seminar is planned for Saturday 11 October 1997. The aim is to present and discuss the results of the research projects listed above and discuss further grassy ecosystem research priorities. All researchers, students and workers are encouraged to attend. The seminar will be held at

the Birds Australia (formerly RAOU) offices in Riversdale Rd., Hawthorn, probably from 10:00 am. If you wish to attend please contact Tim Barlow at VNPA on (03) 9650 8296; places will be limited, so registration is essential.

Source: Grass Clippings, GERG Newsletter August 1997

Grassland Tours

Although early indications are that we are heading for one of the driest years on record, this won't faze our usual endeavours to get out among the grasslands, and become oblivious to all other life forms taller than 30 cm. Those hoping for a "high plains" type wildflower display will probably be disappointed this year, but if you're interested in how plants and animals interact with climate and other abiotic factors, this spring could be a real eye-opener.

Plenty of notice is provided for the following field trips:

Sunday, 26 October:

Merri Creek Valley, Keilor Plains -

sites in the Merri Creek valley and Evans St. Grassland, Sunbury. In conjunction with the VNPA National Parks conference.

Saturday, 1 November:

Gippsland Plains -

At last a Gippsland tour! Robyn Edwards, local Grassland Steward, and key botanists will help show the few remnants left.

Saturday, 8 November:

Bannockburn, Cressy -

visit Bannockburn cemetery and bushland reserve, a beautiful old growth Yellow Gum woodland (hopefully) and the Cressy trotting track.

Places may be limited, so please notify Vanessa Craigie (contacts above) as soon as possible if you wish to go on any of these trips.

Source: Grass Clippings, GERG Newsletter August 1997

Posters

Merri Creek Management Committee has produced a new grassland poster. The A2 size poster features a superb David Tatnall photo of Kangaroo Grass, several smaller photos by Phil Ingamells, John Arnott, Vanessa Craigie, James Ross and Birds Australia, and some very brief management text. Production of the poster is part of the Environment Australia project to develop management guidelines for the Merri Creek grasslands, and additional funding and assistance was provided by DNRE. For copies of the poster call MCMC on (03) 9380 8199.

Copies of the old DCE grassland poster, featuring a Striped Legless Lizard, have turned up. As well as copies of the 1989 DCE video "Preserving Native Grasslands". Copies of the poster and limited

numbers of the video can be obtained from Vanessa Craigie.

Source: Grass Clippings, GERG Newsletter August 1997

Small Golden Moths Orchid Update

In May we received a copy of the Survey for the Small Golden Moths Orchid, a report to the Department of Natural Resources and Environment by Carr, Stajsic and Jeanes with an accompanying letter from the Regional Manager of the Port Phillip Region saying that the Department will not continue its current attempts to protect the orchid on this site, and that any further protection of nature on the Slough Estate will be managed by the City of Hobson's Bay. Also the letter stated that resources are being allocated to improve grassland conservation at Craigieburn.

At our July meeting Peter Rice reported that there is a change in direction in the thinking of what is to happen at the site. From May 6th the declaration of Critical Habitat has been revoked which makes the Flora and Fauna Guarantee Act powerless to protect the orchid.

At a meeting of the Save the Orchid Coalition, City of Hobson's Bay Council, DNRE and Envirosol (who conducted a survey) maps were laid out indicating dispersed areas where the orchid may be that can be set aside for conservation. Other areas will be traded off, agisted horses will be removed from some other areas and the "Hundred Acres" previously unburnt for ten years will be burnt. All provision of services at the site has been completed and all heavy machinery is now offsite. At our July meeting we talked about other options being canvassed by the City of Hobson's Bay that are not viable.

The Small Golden Moths Orchid can be grown from seed but it is difficult to identify suitable niches in which to grown in safe grasslands and to reestablish the symbiotic relationship with the soil fungi mycorrhiza.

What does this all mean?

It seems likely that the State Environment Minister Mrs Marie Tehan will preside over the first deliberate extinguishment in Victoria in favour of a transport terminal.

Species extinction is up there with the great fundamental problems of our age, - soil erosion, deforestation, and land clearing, chemical pollution of land and waterways, ozone depletion, the greenhouse effect, overfishing, the decline of biodiversity, radioactive emissions, overflowing levels of garbage and toxic waste. These large global problems often make people feel powerless. But in grappling with these problems we can draw sustenance from the saying - Think Globally, Act Locally.

Write to:

The Hon Marie Tehan, Minister for Conservation and Land Management, 240 Victoria Parade, East Melbourne 3002.

Source: SGAP, Keilor Plains Group Newsletter, July 1997

Coming Events:

For IFFA events see back cover

Talks/Conferences/Workshops

Sundays - "Radio Marinara", 9 - 10:00am. A RRR FM radio programme on marine issues with talk back, guests and music - channel 102.7 Mhz.

Also on Sundays - "The Environment Show", 3.30 - 4.30pm. A RAM FM radio programme presented by Aart Hoebee, on local ecological issues, with guests and music. Channel 95.1 mHz - Community Radio in the Central Highlands area. Contact Joff Allan on 0354 222 711 (W), 0354 226 892 (H).

September, Wed 3 "Revegetation Project Planning", Industry Training Day presented by Greening Australia. Includes: Site Assessment techniques, Setting goals & timelines, Plant Selection & Sourcing, Plant Establishment Techniques, Site Preparation, On-site Material Management, Monitoring and evaluation. Includes a visit to a Case Study site plus open discussion. Venue: Currawong Bush Park, Warrandyte. Cost: \$125. Contact Mary Trigger on (03) 9457 3024.

September, Thu 4. "Bats" Part of the Green Wedge Environment Seminar Series. Speaker: Lindy Lumsden. 7:30pm in the Warrandyte Community Centre, Yarra Street, Warrandyte. For more information contact Bill Mallinson (03) 9840 9338.

September, Sun 14. "Wetlands - conservation and management". 2pm - 5pm. Workshop presented by Creswick Landcare Centre. Land manager, Gavin Cerini, will discuss the value of wetlands and techniques for conserving, managing and creating wetlands. Location: Clunes Swamp and "The Common". BYO lunch. Cost \$20/\$10 concession. Contact (03) 5345 2200 for bookings.

September 16 - 19, 1997. "Landcare: Changing Australia". Adelaide Convention Centre, Adelaide, SA. Contact Andrew Curtis, GPO Box 1671, Adelaide SA 5001. Ph: (08) 303 9339, Fax: (08) 303 9320 Email: landcare@pi.sa.gov.au

September 28 - October 1 1997. "**Interpretation Australia Association National Conference**". Gatton College, University of Queensland. A conference to bring together interpreters, heritage managers and academics from all over Australia. The conference theme is "Big ideas - Small Budgets" and will examine a number of sub-themes including marketing, user pays, interpretation, and evaluation in natural areas. Contact Greg Siepen, Chair 1997 Interpretation Australia Association National Conference, C/- Dept. Of Management Studies, University of Queensland, Gatton College, LAWES QLD 4343. Ph: (07) 5460 1021, Fax: (07) 5460 1324.

29 September to 3 October, 1997. "Landcare for Educators Course". Designed for teachers and community educators, it give participants detailed information on the general principals of land management and their application to landcare education. Contact Creswick Landcare Centre (03) 5345 2200.

29 September to 5 October 1997. "Field Skills Workshop". The Victorian Field Naturalists Clubs Asso-

ciation will be running their second Skills Workshop at Lady Northcote Recreation Camp, Rowsley. Led by well-known naturalists, including Malcolm Calder, Ken Simpson and Leon Costermans, it will provide skill training and field application projects such as observation skills, plant and animal ID, geological and ecological interpretation, project design and team involvement, mapping and recording, use of references, and report presentation. Contact Dick Southcombe GFNC/VFNCA Rowsley, PO Box 1047, Geelong 3213; Phone (03) 5243 3916.

October, Thu 2. "Native fish of the Yarra" Part of the Green Wedge Environment Seminar Series. Speaker: George Paras. 7:30pm in the Warrandyte Community Centre, Yarra Street, Warrandyte. For more information contact Bill Mallinson (03) 9840 9338.

October 4 to 7, 1997. Birds Australia 1997 Congress and Campout "Birds & Woodlands". The Congress will be held from the 4th - 5th at the Charles Sturt University campus in Albury, NSW. The major theme is woodland birds. The Campout runs from the 6th - 10th at Cornishtown, just outside the Chiltern box-ironbark forest park. Contact the Congress Convenor, Margaret Cameron (03) 5229 9792.

October, Wed 15 "Importance of birds on farms" - Part of a series of one day workshops held at Alcoa's Warrambeen Landcare Education Centre. Warrambeen is a well known and historic merino sheep property on the western plains of Victoria. Cost \$45.00. For bookings contact Trish Taylor on (03) 5281 3250. Two more workshops at Warrambeen: Indigenous Grass Identification: Sun 30/11 & Sun 7/12.

October, Sat 18. "Improving your coastal plant ID skills" a field experience in plant ID presented by Greening Australia Victoria and Parks Victoria. Contact Gerard Clark (03) 9457 3024.

October, Sun 19. "Box-Ironbark Appreciation". 10:00am - 4:00pm. The Box and Ironbark forests of central Victoria are the most threatened forests in Victoria. They support a large number of threatened plants and animals. Workshop will cover the conservation and management of these important forests. BYO lunch. Cost \$20/\$10. Contact Creswick Landcare Centre (03) 5345 2200.

October, Thu 23. "Direct Seeding - the stories so far." A bus tour presented by Greening Australia Victoria and Parks Victoria. The day involves visits to a number of direct seeding sites, all at different stages of development and using different seeding techniques. Contact Gerard Clarke (03) 9457 3024.

October, Fri 24 & Sat 25. "Victoria's National Parks - the next century". A crucial conference presented by the Victorian National Parks Association. Through plenary sessions and workshops, this conference will consider such timely issues as: Future pressures on Parks, Who should pay for park management; Tourism; Neglected areas; Marketing, education & interpretation; Aboriginal communities and park management; Park Rangers; Friends groups; Management issues; Implications of Fire and Greenhouse. Contact PR Conference Consultants Pty Ltd, PO Box 326 Deepdene Delivery Centre 3103, Ph: (03) 9816 9111, Fax: (03) 9816 9287, Email:

prcc@labyrinth.net.au

October 24 - November 7, 1997. "Platypus Fieldwork Training" - intensive course and research expedition. This two-week training course will provide a "hands-on" introduction to platypus research, a range of practical biology study skills. Fee: \$1500 which covers all accommodation, food, tuition and use of specialist equipment. Limited to 8 participants. Contact Australian Platypus Conservancy on (03) 9716 1626.

November, Thu 6. "Wildlife Corridors" Part of the Green Wedge Environment Seminar Series. Speaker: Andrew Bennet. 7:30pm in the Warrandyte Community Centre, Yarra Street, Warrandyte. For more information contact Bill Mallinson (03) 9840 9338.

November 28 - 29, 1997. Sustainability & Local Environments; Myths, Models & Milestones, University of Sydney, NSW. Environs Australia's second National Conference; it will explore the cutting edge of sustainability practice in local communities, and contribute to the development of achievable goals and solutions for the 21st Century. Contact Peter Lyons, Executive Officer, Environs Australia, 2nd floor, Ross House, 247 Flinders Lane, Melbourne, Vic 3000. Phone (03) 9654 1322, fax (03) 9654 1625 or email <mcavic@peg.apc.org>.

December, Thu 4. "Foxes" Part of the Green Wedge Environment Seminar Series. Speaker: Linton Staples. 7:30pm in the Warrandyte Community Centre, Yarra Street, Warrandyte. For more information contact Bill Mallinson (03) 9840 9338.

December 6 to 9, 1997. "The 3rd International Megapode Symposium" - for science and Conservation. Held in Victoria's Little Desert National Park. Speakers include academics and professional ornithologists as well as field ecologists, wildlife managers and naturalists from around the world. Contact Dr. Darryl Jones, Faculty of Environmental Sciences, Griffith University, Nathan Qld 4111, Australia, Phone 61 7 3875 7451, Fax 61 7 3875 7459, E-mail: D. Jones@ens.gu.edu.au

9 - 12 December "The Other 99% - The Conservation and Biodiversity of Invertebrates". Sydney, NSW. The objective of this meeting is to demonstrate the importance of invertebrates in biodiversity research and in nature conservation. Contact the Australian Museum, Invertebrate Biodiversity Conference, 6 College St, Sydney NSW 2000, Fax (02) 9320 600, E-mail: invert@amsg.Austmus.oz.au

Excursions and Field Trips

Sundays - 7pm sharp. Morning Walk in Queensland's Toohey Forest. Meet at the Toohey Road carpark. Contact Chris Stokan (06) 3343 2943.

Sun 31 August, "Platypus Behind the Scenes" Tours, presented by the Australian Platypus Conservancy. The tour includes: illustrated talk on platypus by Conservancy researchers, learn about platypus research techniques, then try your skills at spotting platypus in the wild. Each tour, including a platypus spotting opportunity lasts about 2 hours. Tours commence 3.00pm at Toorourrong Reservoir Park, near Whittlesea. Bookings essential. Contact (03) 9716 1626.

September - "Bird Weeks with Graham Pizzey at Gipsy

Point Lodge". Gipsy Point Lodge is a small guest house situated on the Genoa River at the head of Mallacoota inlet in Victoria. Surrounded by Croajingolong National Park and the waterways, the lodge has a feeling of remoteness that belies its proximity to Melbourne, Canberra and Sydney. Graham is well known for his ability to locate and identify birds both by sight and call and for his knowledge of bird behaviour. As well as bird watching during the day, Graham will present illustrated talks in the evenings. Dates: Sun 7 to Sat 13, Sun 14 to Sat 20. Tariff is \$950 for the week, including accommodation and meals. Contact Alan and Susan Robertson, Gipsy Point Lodge 1800 063 556.

6 - 7 and 20 - 21 September, VicGroup Banding Project at Rushworth. Co-ordinated by Charles and Joan Sandbrink this Birds Australia research project is being carried out at several sites. For anyone interested in joining the project your help would very much be appreciated. At this stage weekends are also planned for 18 - 19 October, 8 - 9 and 22 - 23 November, and 6 - 7 December. Ring Joan or Charles on (03) 9401 2832 after hours, or Charles at Head Office on (03) 9882 2622.

September, Thu 18. "FO Warrandyte State Park's Visit to 100 Acres Reserve". Meet on site 1:15pm. This reserve in Park Orchards is a gem; the wildflowers will be stunning. A chance to compare the vegetation with Warrandyte's bushland. Meet at car park at Domeney Reserve, Knee's Rd, Park Orchards (Melways 35 E9). Contact Mike Coupar (03) 9903 9567.

November Sat 1 & Sun 2 "Australian Native Orchid Show". 10 - 5pm. Presented by the Society for Growing Australian Plants. Masonic Hall, Geringhap Street, Geelong. Admission \$2. Sales and refreshments.

Restoration Activities

August, Sun 31. FO Warrandyte State Park - Koornong Riverwalk. 1:30 - 4:00pm. Follow up on previous weed control along the river track. Admire the highlights of the year's work. Small digging tools will be useful. Followed by afternoon tea - bring a plate to share. Contact Cathy Willis (03) 9844 1841.

September, Sun 7. FO Merri Creek - Bell Street Litter removal morning. 9:30 am. Starting just below Bell St Bridge. Contact (03) 9480 5492.

September, Thu 11. FO Warrandyte State Park morning activity - Mount Lofty Wetland. This will be the first activity at Mt Lofty since it became part of the State Park. We will inspect previous plantings and do some more enrichment plantings of rare wetland species. Meet at the end of Lower Homestead Rd, Wonga Park (Melways 279 B4). Contact Flora Anderson (03) 9722 1776.

September, Sat 13. FO French Island - project morning. Pittosporum eradication from Barge landing and beyond. Contact Des Quinn (03) 9543 7315, Francis Garner (03) 9783 4213 or Geoff Lacey (03) 9578 2873 three days prior for transport details.

September, Sat 13. Candlebark Community Nursery - Working bee. Join us anytime from 10am to 4pm as we establish garden beds, transplant seedlings, paint, mend, tidy or do whatever else needs to be done to keep our facility in top shape. Light lunch

and refreshments provided. Enquiries: 0419 362 254.

September, Sun 13. Warriem Reserve - Community Tree Planting Day. Participate in this year's Spring Planting Festival with the friends of Warriem Reserve as they plant several hundred more indigies in the next stage of revegetation works. BYO gloves & cup, refreshments supplied. Contact Gavin Anderson (03) 9725 9460.

September, Sun 14. FO the Flame Robin - Planting afternoon. 1pm. Near footbridge, Roper Reserve, Camp Rd, Broadmeadows. Melways 7 B10. Contact Elissa Kerassitis (03) 9309 1052.

September, Sun 14. FO Yandell Reserve - Planting morning. Meet near scout Hall, off St Helena Rd, Greensborough. Melways 21 B1. Morning tea provided. BYO gloves & sturdy footwear. Contact Graham Patterson AH (03) 9432 0163.

September, Sun 14. FO Sherbrooke Forest Inc. - Mapping Survey. Meet Grant's Picnic ground, Melways 75 K4. Bring compass, pen and clipboard. 9:30am. Contact Vivien Freshwater (03) 9754 3093.

September, Thu 18. FO Warrandyte State Park morning activity - Frogland and Nursery Garden maintenance. 10am. Frogland is looking great - time to plant around the new pond with some rare aquatic plants, plus some weeding around previous plantings. Meet Warrandyte State Park Depot, Pound Bend Rd, Warrandyte (Melways 23 C10). Contact Mike Coupar (03) 9903 9567.

September, Sat 20. FO Jackson's Creek. 10am. Planting followed by a BBQ at the Correa Escarpment, Northern end of Westward Ho Drive, Sunbury. Mel 382 H2. Contact Elissa Kerassitis (03) 9309 1052.

September, Sat 20. FO Werribee Gorge & Long Forest Mallee - Project day at Werribee Gorge. Track maintenance at Falcons Lookout. Contact Janet Leversha (03) 5367 4229.

September, Sun 21. Community planting and BBQ along Attwood Creek. Meet 10am Broad Street, Westmeadows. Melways 6 A6. Contact Elissa Kerassitis (03) 9309 1052.

September, Sun 21. FO Merri Creek - Ramsden Street Planting morning. 10am. This is one of our more popular planting locations, so bring the kids and have fun. Contact (03) 9480 5492.

September, Sun 21. FO Warrandyte State Park - "Timber Reserve Treasures". 10:00 am - 1:00 pm. Join the Friends in a wildflower walk through the reserve to look for orchids, some of which will be flowering. Followed by an inspection of Pittosporum Gully Fence for some maintenance weeding. BBQ provided, with meat & bread supplied. BYO salads and drinks. Contact Mike Coupar (03) 9903 9567.

September, Sat 27. FO Sherbrooke Forest - project afternoon. 1pm. Control of asparagus fern, ivy and holly in the Pound Creek Spur. Meet Micawber Tavern carpark (Melways 75 G7). . Contact Vivien Freshwater (03) 9754 3093.

September, Sun 28. Sunbury Conservation Society. Planting afternoon at Spavin Drive Dam. Enter Aldridge Drive, Sunbury. Melways 362 B. Afternoon tea provided. Contact Elissa Kerassitis (03) 9309

1052.

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

Thank you to all the people who have contacted us regarding on-coming events their groups are organising. Elissa Kerassitis (03) 9486 6768.

Help Still Needed:

We still need someone to help out with Coming Events in particular and Indigenotes in general. I have had a few people ring up with offers but we need more.

Please keep articles, newsletters, snippets, requests etc. coming in as well....

Ring the Editor or Elissa directly for offers of help.



Weed Snippets: National Weebuster Week, 12-19 October 1997

Following the success of the 2nd Queensland Weebuster Day in October 1996 and similar efforts in NSW and the ACT, Weebusters are going national. The program was initiated by the Department of Natural Resources in Queensland and the CRC (Cooperative Research Centre for Weed Management Systems) will be promoting a national approach during 1997.

The Queensland Weebuster Day was organised along similar lines to Clean Up Australia whereby local groups work to clear local creeks, parks, bush and farmland of weeds and replant with natives. While the problem is a very serious one, the Day was held to bring together local residents to have FUN while taking action in their local area.

The main aims of Weebuster Week are to:

- inform the public of the devastation pest plants (weeds) inflict on bushland, farmland and waterways
- help the public make the connection between their gardening habits and potential land degradation
- provide the public with the information and skills required to play a responsible role in the sustainable use of the land as a resource.

Weebuster Week is also a good opportunity for groups involved in weed control to raise their public profile and gain support for the type of activities which are undertaken. All groups/individuals are encouraged to be involved in this national event.

There are a range of activities which could be conducted during the week including weed control demonstrations, seminars, workshops, school activities, weed cleanups, displays etc.

Further information will be available in the coming months but it is important to start planning now.

Initial Contact: Sharon Corey, Editor, *Weed Watch*, CRC, CSIRO Entomology, Canberra, Ph. (06) 246 4136 or Fax (06) 246 4177

Source: *Weed Watch*, the External Newsletter of the CRC for Weed Management Systems, Nov-Feb 1997

Selective Spray Topping:

A New Weapon in the War Against Wild Oats

Please Note: If you are wondering why this agricultural weed story is relevant to managing weeds in indigenous vegetation (our main interest?) then refer to the editor's comments at the end.

Have you ever wondered why major agricultural weeds like wild oats persist? Dr. Dick Medd, an applied weed ecologist with NSW Agriculture at Orange, realised that the answer to this question could well hold the key to devising smarter management systems. He and his collaborators thus set out to identify the critical point at which to attack the life cycle of wild oats.

Seasons of detailed demographic studies and months of tedious sieving and sorting to quantify seed banks ensued. Computers were also a vital tool by aiding with diagnostic simulation modelling to identify the cause and predict solutions. A decade later these efforts have resulted in a new technique, selective spray topping, that can be integrated into the weaponry to control wild oats, one of the grain industries most important weeds.

Why then do wild oats persist?

Contrary to wide held belief, the mechanism is NOT seed dormancy which permits the reservoir of seed to build up. INSTEAD it is the revitalising of seed banks by seed input from survivors in the crop. Stop seed input, and the work has conclusively shown that seed banks can quickly be depleted. Research presented at the 1992 Wild Oats Symposium in South Australia showed that decreasing the seed rain over five years led to a reduction of the soil seed bank from almost 6000 to 10 seeds m². This approach was significantly better than any other way of regulating seed banks, such as by increasing seed bank loss or decreasing seedling recruitment. *The key to management then is to regulate seed production.*

Until now there have been no control methods that can be applied to weeds in crops to directly regulate seed set. The emphasis has always been on controlling weed density and biomass to conserve crop yields - with some indirect regulation of seed production. Medd's team explored two routes - chemical and biological to evaluate herbicides and seed pathogens as tools for directly regulating the seed phase of weed life cycles.

Selective spray-topping is the term coined to describe the application of sub-lethal rates of SELECTIVE herbicides to control seed set in grasses (particularly wild oats). Another major difference to the more familiar spray-topping or pasture topping method (see box) is that the herbicide is applied prior to inflorescence emergence of the majority of tillers and no attempt is made to synchronise tiller development in order to maxim-

ise efficacy. However, the "spray-topping" term is appropriate for both methods as the aim is to reduce seed set.

In 1990 a pilot experiment was conducted to look at the technique and its direct impact on seed production. The results from this experiment added to the mounting evidence that wild oats persist by survivors producing seed rather than the seed bank building up through dormancy.

Funding from the Grains Research and Development Corporation allowed for the selective spray-topping technique to be developed, and this research has just been completed. The technique aims to cause abortion in tillers rather than kill the plant and therefore the research looked at the optimum rate and optimum time for the herbicide application. One of the benefits with this technique is the reduced risk of herbicide resistance as the rates are low, are applied late and only seed production is targeted.

One of the important factors to consider is that there is no payoff in the current crop. The technique allows for the management of the grass weed population for future benefits. Results from various models have shown that substantial economic gains can be realised if the decisions are taken by considering the future profit effect of current weed management decisions.

For more information contact:

Dr. Dick Medd (063) 913 827

Dick.Medd@smtpgwy.agric.nsw.gov.au

Editor's Note: This kind of research is useful for native vegetation managers for several reasons:

It demonstrates the importance of managing weed seed banks rather than necessarily "managing" or "controlling" the weeds themselves.

It demonstrates the long-term management thinking and deeper understanding of weed species ecology that we need to apply in our work.

It is possibly directly applicable in selectively controlling annual grasses in bushland, a major weed problem in many ecosystems.

*I have already used similar thinking and efforts for controlling Quaking Grass (*Briza maxima) and have heard other people have. I'll try to review my work soon; any other stories and experiences that would be useful to share?*

Source: Weed Watch, the External Newsletter of the CRC for Weed Management Systems, Nov-Feb 1997

Bridal Creeper Control

Previous trials have found that high levels of control of Bridal Creeper can be obtained with metsulfuron methyl (Brush-off) and glyphosate (Roundup, Glyphosate 360). Reductions in foliage

growth of 90-95% in the year after application have been achieved with Brush-off applied at spray concentrations of 2.5 gms to 5 gms per 100 litres, and Roundup at 0.5 L to 1 L per 100 L, both sprayed to wet foliage, without spray run-off.

A trial in Warrandyte State Park compared three application times. Brush-off was applied at 2.5 g per 100 L and Roundup at 0.5 L per 100 L. One year after application there was no difference in control between application in early July, late August and mid October. Changes in spray volume (and hence the amount of herbicide applied per hectare) also had no effect on control. Brush-off applied at 2.5 g per 100 L in 500 L of spray per ha (i.e. 12.5 g per ha) gave equal control (97%) to that given by the same concentration applied in 1000 L per ha (i.e. 25 gms per ha). Similarly with Roundup, application at a concentration of 0.5 L per 100 L, in 500 L of spray per ha (i.e. 2.5 L per ha) gave equal control (95%) to that given by the same concentration applied in 1000 L (i.e. 5 L per ha).

A trial in the Point Nepean National Park compared different rates of Brush-off applied in October. One year after application 1.5 gms per 100 L applied in 1000 L of spray per ha or 3 gms per 100 L applied in 500 L of spray per ha (both 15 gms per ha) gave equivalent control (95%) to application at 2.5 gms per 100 L applied in 1000 L of spray per ha or 5 g per 100 L applied in 500 L of spray per ha (25 gms per ha). Brush-off at 10 gms per ha (1 gm per 100 L applied in 1000 L or 2 gms per 100 L applied in 500 L of spray per ha) was only slightly less effective, giving 88% control.

Both herbicides can cause damage to non-target species through foliar contact, and in the case of Brush-off, through root uptake, so their application needs to be made with care. Neither herbicide is at present registered for use in Victoria against Bridal Creeper. The trials are continuing to monitor regrowth in second year.

Contact: Graeme Pritchard (03) 9785 0138
Source: Under Control: Pest Plant and Animal News, Keith Turnbull Research Institute, May 1997

Snippets:

Port Phillip Region Small Rural Property Award

The Port Phillip Small Rural Property Award is open to all small rural property owners and part time farmers in the Port Phillip region who have implemented sound land management practices that contribute to the sustainable use of their land. The aim of the inaugural Award is to publicly recognise, acknowledge and encourage sustainable land use practices by part time farmers and small rural

property owners in the Port Phillip Region.

Prizes include \$500, \$300 and \$200 gift vouchers, Enlarged aerial colour photograph of the winning property, one night accommodation at Cleveland Winery Bed and Breakfast at Lancefield, complimentary dinners, and much more!!

Entries for the award close on Monday 1st September 1997

The award presentation will be at the Government Pavilion, Royal Melbourne Show on Monday 22nd September 1997

For more information, and application forms contact: Penny Richards, NRE, PO Box 264, Woori Yallock 3139, Phone (03) 59 647 088.

Local Government and Biodiversity

Because local governments are responsible for detailed local land-use planning, and are in direct contact with local communities, they are in a unique position to effectively deliver programs for the conservation of biodiversity. However, programs of this kind are generally managed and funded by state and federal government leaving local government with limited capacity to develop programs at a local level.

An important challenge is to identify impediments to, and opportunities for local governments to play an active role in nature conservation. This is the objective of a new CSIRO project due to commence in June 1997. The project will review existing approaches to nature conservation within local government and identify opportunities for enhancing nature conservation programs at a local level. The project has a national focus and the team is very interested to hear from and work with Councils interested in programs directed at nature conservation.

For further information please contact Carl Binning on phone (06) 2421671, fax (06) 241 3343, email <carl.binning@dwe.csiro.au>

Source: Local Environs Newsletter, May 1997

Recovery of Prince William Sound

Scientific American revisits the 1989 Exxon Valdez oil spill. Local villagers were and are interested in clean-up, not biological recovery, of the shoreline; and few oiled areas escaped treatment. While it is proving hard to define 'recovery', outsiders now claim that the untreated areas have fared the best.

In addition to US\$2.5B already spent by Exxon on clean-up, claims and reimbursements, it is appealing \$5B punitive settlement. Exxon has

More Snippets:

also committed \$900M to trustees (a panel of state and federal agencies) for 'restoration' - plus another \$100M if other impacts come to light by 2006.

Has the shore line recovered? Exxon, villagers and Trustee all seem satisfied. However, an independent study by National Oceanic and Atmospheric Administration (NOAA) suggests that hot-water cleaning sterilised the beaches; and whatever survived the oiling did not survive the cure.

The untreated areas had residual populations of a variety of organisms, and these a variety of ages; not all were killed in the spill. However, the cleaned areas were often intensively colonised by a single-age cohort of a single species. When these colonists aged died as one, a repeated mass colonisation followed. Therefore, populations fluctuate wildly in terms of both individuals and dominant species in the cleaned areas. Is this recovery? "Scientists waste a lot of time saying 'do nothing'", it was noted at the time. But NOAA thinks that further study could give us hard-to-get guidance on techniques for use in future clean-ups.

However, the Trustees have decided that \$10M would be too much to spend on another 3 years of monitoring. Science has lost. Green political pressure in the NW is now on buying up old-growth forests to save them from future logging. Already \$200m has gone, and another \$180M is in the pipeline, for this quite unrelated cause.

Source: RoySocVic Note on the News, 1997/2

Wildlife Corridor for Phillip Island

By Bessie Hussey, Phillip Island Landcare Coordinator

Since forming in 1988 the Phillip Island Landcare Group has worked steadily for almost a decade. After this long the group has not lost momentum but has continued to grow and is about to embark on its biggest project yet.

With its largest membership ever (over 80 landholders) the group is in the throws of planning a Wildlife Corridor that extends the length of Phillip Island. The corridor will meander through thirteen farms incorporating existing habitat including remnant vegetation and farm shelterbelts. It will link the Island's two largest

reserves, the Koala Conservation Centre and the Phillip Island Penguin Reserve. Each of these reserves are currently isolated at either end of Phillip Island and support a diverse range of habitat including Ramsar wetlands, woodland and coastal heath.

By linking such areas the group hopes to provide vital habitat for wildlife to move through freely without any barriers. Currently the fragments or 'islands' of natural vegetation occurring across farmland leave animals vulnerable to disease, bushfire, predation by feral animals and even eventually inbreeding.

Phillip Island suffers from mild to severe dryland salinity and piezometers are checked every two months to monitor this. Apart from providing wildlife habitat and floral diversity members of Phillip Island Landcare see this as an excellent opportunity to help lower saline watertable. Wherever possible the corridor will act as a break of slope planting in recharge areas in an attempt to reduce the amount of water entering the groundwater system.

The idea of a wildlife corridor of this size came from local dairy farmer and former group President, Jim McFee.

The Corridor Project has the support of the Phillip Island Nature Park, Bass Coast Shire Council, Friends of the Koalas and the Phillip Island Conservation Society.

The project was officially launched at the group's Land For Wildlife Field Day on April 5th by the Hon. Susan Davies, MLA Gippsland West; Ray Leivers, General Manager, Phillip Island Nature Park and Jim McFee planting the first three trees.

Source: Victorian Landcare, Issue 4, Winter 1997

Book Reviews:

So you thought owning a small farm or property was easy?

Property Management Planning for Small Farms and Properties.

By J. Fontana and J. Williamson (1995)

This book is a must for anyone interested in the management of small properties or farms. Funded by the Victorian FarmSmart Program through the National Landcare Program, the book is a guide to Property Management Planning, buying a small property or farm, choosing an enterprise and managing it, financial planning, self and family management and elements of risk. The book focuses closely on natural resource issues as they relate to small property or farm "on ground" planning and management.

Available from Victorian DNRE for \$15 plus \$4 postage and handling. Ph. (03)94124795

Source: Bushlines Newsletter, No 10, July 1997

Nature Conservation on Farms (1996)

This is a new home study unit designed to teach landholders the skills of preserving the natural ecology on their farms. It highlights the benefits of nature conservation to farm productivity as it describes the differences between natural ecosystems and the modified farming ecosystems. Drawing on the skills of landholders, Officers of Greening Australia and the New South National Parks and Wildlife Service, this is an excellent reference source for anyone interested in conserving and enhancing the natural resources on their property. The unit is also offered as an elective in the Certificate of Landcare Course run by NSW Agriculture through Continuing Education at Tocumwal Agricultural College. Available from Continuing Education for \$25 plus \$3 postage and handling.

Phone 1800 025 520 (free call)

Source: Bushlines Newsletter, No 10, July 1997

Green backlash: global subversion of the environment movement

By Andrew Rowell (1996)

This book not only takes a close look at how social perceptions of the environmental movement are changing but also at who is involved in developing this change. As the book mentions "The backlash has one simple aim: to nullify environmentalists and environmentalism". Rowell provides a new understanding of the challenges and threats now facing the environmental movement worldwide and points to opportunities to halt the backlash before it is too late.

ISBN 0-1415-12827-7 (hbk) or 0-1415-12828-5 (pbk)

Available in bookshops. RRP: \$32.95 (paperback)

Source: Bushlines Newsletter, No 10, July 1997

Tukka -

Real Australian Food

Review by Judith Thompson

A new publication dealing with Australian bush foods is "Tukka", written by Jean-Paul Bruneteau. This beautifully presented book is a welcome addition to the growing catalogue of publications dealing with our industry and its roots.

Jean-Paul is one of the pioneers of the use of Australian native foods in contemporary high class cuisine. Born in France in 1956 his family migrated to Australia in 1967. He became a chef and joined the Australian Merchant Navy. In his travels he learned about the cuisine of many cultures, and discovered that Australia had an abundance of indigenous foods. He established "Roundtrees - The Australian Restaurant", then "Ribberries - Taste Australian", both in Sydney. Now he has written his first cookery book to share his passion with the public.

"Tukka" is not just another cookery book. It contains much, much more. It is a study in geography, natural history, personal and social information. The book is structured around chapters dealing with associated food species. Chapters on "kangaroo and wallaby", "Bunya bunya", "Herbs, spices and oils" incorporate information on traditional Aboriginal lifestyle with details on native plants and animals. Combined with early colonial history and personal anecdotes to provide context, the selected recipes whet the reader's appetite. Is it prophetic that Jean-Paul with the French heritage of a sophisticated and admired cuisine, applies his considerable culinary knowledge and skills to bush tucker?

The book is strikingly presented. It is clean in layout, sprinkled liberally with photographs and attractive artwork and motifs, with loads of "callouts" to attract the readers attention. The photographs of plants and animals in their natural environment complement the mouth watering images of the cooked dishes.

In keeping with the philosophy of indigenous cuisine the book takes a holistic view of bushfoods - "a cuisine exists in an environmental and social context". Jean-Paul demonstrates a sympathetic understanding of Aboriginal culture. His championing of indigenous people's involvement in the bushfood industry at last year's ANBIC conference displays a consistent personal commitment to Aboriginal rights.

Bruneteau's style is conversational and chatty. He constantly alludes to his philosophy with comments like "Australian game could wear an 'organically reared' tag just as comfortably as the 'red tick of approval' from the Australian Heart Foundation."

I found "Tukka" to be very readable. It will make a classy addition to the library of those interested in the bush food industry.

Source: Southern Bushfood Association Newsletter, No. 7 May/June 1997

IFFA activities:

IFFA (Vic) Meeting Tuesday, 26 August 1997, 7:30 PM

Astronomer's Residence, Birdwood
Avenue, South Yarra

SPIFFA

Public meetings are on the first Monday of every month at 7:30 pm at the Waterfall Gully Community Centre, corner of Bayview Rd. and Nixon St., Rosebud.

Contact: Jon Greening (03) 5985 5561.

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IFFA membership costs
\$40 for non-profit organizations,
\$50 for corporations,
\$25 for individuals and families,
or \$20 concession.

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

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Contributions to *Indigenotes* should be sent to the editors — the deadline for the next issue will be September 9th. Contributions can be typed or hand written but computer disk copies on IBM-compatible format is preferred.

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