

RESEARCH INFORMATION NEWS

Department of Conservation and Land Management

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Editorial

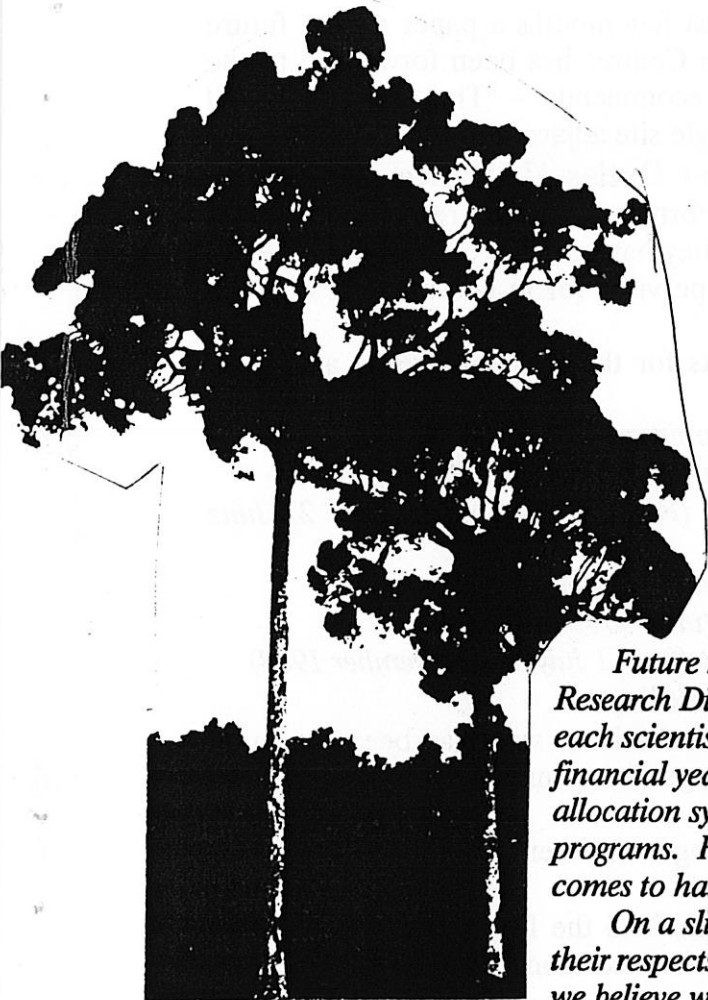
Despite the fact that a number of Research Division staff spent most of May camped in the Gibson Desert Nature Reserve as part of the Department's task force sent to conduct experimental burning and associated research, those that remained have made a considerable contribution to this month's newsletter. Thanks to Jim Lane, Greg Keighery, Judith Harvey (nee Brown), Dave Ward and Mike Choo for their contributions.

Future newsletters will contain information on forthcoming Research Division seminars. Abstracts will no longer be sent to each scientist but instead be printed in the Newsletter. The new financial year will see the Department instigate a new salary allocation system whereby salaries will be allocated against programs. Further details on this will be made available as it comes to hand.

On a slightly different note Woodvale staff would like to pay their respects to Arnold Ringneck, past Assistant Ranger. Arnold, we believe was taken by a species of bigger sorts than himself.

His presence - especially at sundowners - will be missed by all.

"Ed"



	ISSUE	DEADLINE	DISTRIBUTION
DEADLINE FOR NEXT ISSUE	JUNE 88	27 JUNE 88	EARLY JULY

THE LIBRARY (.....)
DEPT. CONSERVATION AND
LAND MANAGEMENT
3 - JUN 1988
WESTERN AUSTRALIA

INFORMATION FROM THE RESEARCH DIVISION POLICY GROUP MEETING

The above meeting was held at Como Research Centre on 26 May 1988. The formal meeting was preceded by a meeting with Como Research Centre staff.

Program Reviews - draft final report

A draft final report has been issued - this is available from Research Centre Managers for staff members who wish to comment.

Please note - this is a draft only

Research Building Plans

After much discussion over the last few months a paper on the future locations of Metropolitan Research Centres has been forwarded to the General Manager. The report recommends - "The location of all metropolitan research staff on a single site adjacent to the Herbarium".

Acting Arrangements and Higher Duties Allowance

When completing Higher Duties Forms all staff are requested to fill in the percentage of duties they feel they have carried out. This should be done prior to submission to the supervisor (or in consultation with the supervisor).

The following acting arrangements for the next few weeks at RDPG level are as follows:

- *Per Christensen for Andrew Burbidge (until 27 June 1988)*
- *John Bartle for Per Christensen (until 27 June 1988)*
- *Neil Burrows for John Bartle (RDPG component) (until 27 June 1988)*
- *Ian Abbott for Steve Hopper (until November 1988)*
- *John McGrath for Ian Abbott (until 30 June 1988)*
- *Norm McKenzie for Ian Abbott (from 1 July 88 - November 1988)*

Interstate and Overseas Travel Policy

A draft travel policy for Research Division staff has been prepared and forwarded to the General Manager for comment. The proposal addresses such issues as:

- more than one officer attending a conference which covers a wide range of topics
- conferences where it is of benefit to the Department to have research scientists attend a conference along with an officer from another Division
- the attendance by Technical Officers at scientific conferences being considered on their merits

Five Year Plan

This will be updated in October. Instructions on format for the next edition will be issued shortly to Program Leaders

Curtin University Library Nominations

The following Research Division staff have been nominated to use the Curtin University Library through the Department's Corporate Membership -

Ian Abbott	Dave Ward	John Bartle
Matthew Williams	Stuart Crombie	John McGrath
Janet Farr		

Membership is not transferable.

WEEDS - FUTURE PROBLEMS

Recently I attended the Weeds on Public Land Symposium and presented a paper on WA's Environmental Weeds. Some future trends of interest to Western Australia were highlighted:

1. In Victoria there is an active campaign to delete potential environmental weeds being grown by Departmental nurseries, or used in rehabilitation activities. This will undoubtedly come to occur in Western Australia.

2. In eastern Australia, the introduction of fleshy fruited weeds into relatively undisturbed bushland mainly occurs via the introduced birds (Starlings and Blackbirds). Another reason to keep them out of Western Australia.

3. One case of hybridization between a rare *Grevillea* and garden plants of *G. rosmariniifolia* and *G. baueri* was documented. This *Grevillea* known from only two semi-urban sites, in one case has suffered approximately 90% introgression of foreign genes.

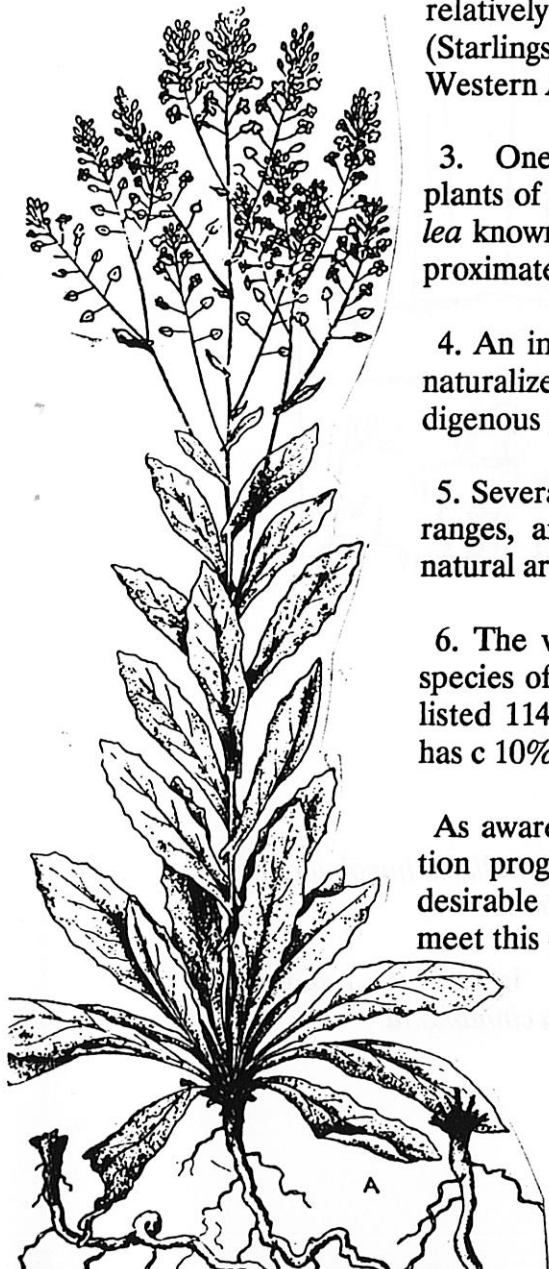
4. An increasing number of Western Australian natives are becoming naturalized, and there were calls to cease planting native non indigenous gardens in many parks.

5. Several Victorian species are becoming weedy outside their normal ranges, and are now listed as inappropriate for planting in or near natural areas.

6. The weed flora grows alarmingly, the 1986 Vic. Flora lists 3,800 species of which 860 are aliens. However Carr *et al.* at the symposium listed 1147 species as naturalized or over 25% of the total flora (WA has c 10% naturalized species on current counts).

As awareness of these problems grow, some of our current rehabilitation programs, gardens, and nursery practices may be seen as undesirable to the wider community. We should commence planning to meet this challenge now.

GREG KEIGHERY



RESEARCH DIVISION SEMINAR SERIES 1988

- These seminars provide a forum at which scientists and interested persons both within and outside CALM can meet informally to discuss research within CALM. The seminars scheduled for the remainder of 1988 are listed below.
- Please note that all seminars start at 3.00pm.
- Venues are the Training Centre, CALM State Operations Headquarters, 50 Hayman Road, Como - for THURSDAY seminars; Wildlife Research, Centre, Ocean Reef Road, Woodvale - for FRIDAY seminars.



DATE	SPEAKER	VENUE	TITLE
3 June	Dr Bryan Shearer	Woodvale	Impact of <i>Armillaria luteobubalina</i> in the jarrah forest
16 June	Trevor Butcher	Como	Resistance in <i>Pinus radiata</i> to <i>Phytophthora cinnamomi</i>

1 July	Dr Barbara Rye	Woodvale	The taxonomy of the Thymelaeaceae (<i>Pimelea</i> family)
14 July	Richard Moore	Como	The development of farming systems with trees to control land degradation and to produce timber
5 August	Dr Stuart Crombie	Woodvale	Plant physiology as a quiet tool for CALM managers
18 August	David Ward	Como	The Ecocube and enquiry - mapping : tools for planning of ecological research?
2 September	Neil Burrows	Woodvale	Fire behaviour modelling in hummock grasslands
15 September	Dr Janet Farr	Como	<i>Uraba lugens</i> in South Australia : biology and performance in relation to nitrogen nutrition
7 October	Dr Gordon Friend	Woodvale	Ecology of the Black-footed Tree-rat in the Kimberley and Top End of the Northern Territory.
20 October	Dr John McGrath	Como	Influence of nitrogen supply on <i>Pinus radiata</i> growth and the development of water stress
4 November	Dr Stuart Halse	Woodvale	Wetlands of international importance - background and wetlands nominated
17 November	Dr Graeme Siemon	Como	The small eucalypt processing study : a mid-term report
2 December	Keith Morris	Woodvale	The distribution status and breeding biology of marine turtles along the North-west coast of W.A.
15 December	Dr Allan Burbidge	Como	Biological survey of Yanchep National Park : how was it useful?

Enquiries: Dr Ian Abbott, phone 367 0299

SEMINAR**16 June 1988****Genetical resistance in *Pinus radiata* to *Phytophthora cinnamomi*
presented by Trevor Butcher**

In 1975, it was proposed to develop a 60,000 ha pine reforestation program in the Donnybrook sunkland, by conversion of a native hardwood forest into productive pine plantations. The jarrah dieback disease caused by *Phytophthora cinnamomi* is prevalent in the area. The preferred species for this program was the highly productive *Pinus radiata*, although there had been reports in the literature citing *P. radiata* as susceptible to *Phytophthora*. Extensive planting of the Sunkland commenced in 1974. Deaths of seedlings and established pine trees were reported and they were constantly associated with root infection by *Phytophthora* spp. Considerable variation within *Pinus radiata* in tolerance to *P. cinnamomi*. Based on these results, part of the West Manjimup seed orchard was culled of susceptible genotypes to produce a *Pinus radiata* seed source with tolerance to the *Phytophthora cinnamomi* disease.

The *Pinus radiata/Phytophthora cinnamomi* association and its implications to management of pine plantations in Western Australia was reviewed in my recently completed Masters Thesis study. The main aim of the thesis study was to examine the variability in resistance to *P. cinnamomi* within the natural and domestic range of the *Pinus radiata* species, to investigate its inheritance, and to determine a strategy for including the disease resistance character into Western Australian populations of radiata pine.

The genetic gain of 60% in seedling survival was calculated for using only genotypes that have a tolerant or moderately-tolerant response, as compared with using a seed population that ignores this *Phytophthora* tolerance character. The effect of sub-lethal infections of *P. cinnamomi* on the growth of plantation trees of *Pinus radiata* has been quantified. Heritability of the response of seedlings and trees of *P. radiata* to *Phytophthora* root-rot was very high and consistent, both at the family and individual level. Indications are that cytoplasmic inheritance is the most likely major mode of resistance in the *Pinus radiata/Phytophthora cinnamomi* system. Confirmation of this is required as it will have a profound effect on the constitution and development of sublines within the Western Australian breeding population.

**Venue: Training Centre
CALM SOHQ
50 Hayman Road
Como**

Time 3.00pm

SCIENTIFIC AND TECHNICAL PUBLICATIONS

The following have been approved for submission for publication this month.

Author(s): J M Brown

Title: Regional Variation in Kwongan in the central wheatbelt of South-Western Australia.

For Submission to: Australian Journal of Ecology

Author(s): G Keighery

Title: A new species of *Samolus* (Primulaceae) from Western Australia

For Submission to: Nordic Journal of Botany

Author(s): N McKenzie, A Robinson, D Belbin

Title: Case Study of a Broad-scale Survey - Biogeography of the Nullarbor District, Australia.

For Submission to: Proceedings of a CONCOM Workshop on Survey Methods for Nature Conservation

Accepted for publication:

Author(s): B Shearer, J Tippett

Title: Distribution and Impact of *Armillaria luteobubalina* in the *Eucalyptus marginata* forest of Southwestern Australia

To be published in: Australian Journal of Botany Vol 36 - issue iv

The following Research Project Plan has been approved this month.

No: 12/88

Title: Effects of fire on desert birds

Officer-in-Charge: Andrew Burbidge

**BOOK LAUNCHING
BIRDING SITES AROUND PERTH**

Judith Harvey attended the launching of Ron Van Delft's book "Birding sites around Perth" on behalf of the staff at Woodvale who participated in the Perth Metropolitan Bird Project in 1985. This book is a very good guide to Perth's best birdwatching sites and contains many full colour aerial photographs. A copy of the publication was presented to CALM as a major financial contributor. This will be lodged in the CALM library.

Copies of the book are available from the RAOU office, Suite 30 Rowleys Centre, 15 Ogilvie Street Canning Bridge. Phone 364 6202 first, or UWA Bookshop for \$10.00.

The Woodvale bird survey is continuing and any records can be forwarded to Judith or marked off on the monthly cards pinned up on her notice board.



CONGRATULATIONS

- To Ian Abbott on his new appointment to Principal Research Scientist (Science)
- To John Bartle on his appointment to Principal Research Scientist - Special Projects
- To Stuart Halse on his appointment to Senior Research Scientist

(The Editor apologizes for the rather late acknowledgements of the latter two promotions but none the less wishes all three well in their new appointments).

NEW ARRIVALS

Research Division welcomes Dr Tony Start to its midst. Tony has recently been appointed to the position of Principal Research Scientist - Management. Tony will be moving from Karratha and it is expected he will take up his new appointment in the first week of July.

"Quotable Quotes"

"If you've got Kurtosis there isn't much we can do for you" - Dr Geoff Riley, Seminar Lecturer, Multivariate Methods Course.

"Everybody works smarter when there's something in it for them"

"None of us is as smart as all of us"

"The problem is to learn how to define the end results we want and create the incentives to achieve them".

LONDON, PARIS, ROME, ISRAEL, TOKYO, GIBSON DESERT, WOODVALE

Staff numbers at Woodvale have been slightly depleted lately due to the globetrotting tendencies of many within the Reserve. We welcome back Anna Napier after a four week whirlwind tour of England, France and Tokyo. Stephanie Moran after surviving the Swiss men, chocolate and snow (in no order of preference mind you!) is now we believe somewhere in Israel. The whereabouts of Paul Gioia is unknown at the point of writing - the last we heard was Yugoslavia. News has also just filtered through that Judith Harvey is hobnobbing with Ronald Reagan at the Kremlin. For those of us not on holidays and not as lucky as Anna, Stephanie, Paul and Judith it seemed like the next best alternative was a three week trip to the Gibson Desert to carry out experimental burning and associated research. Unfortunately heavy rain in the north-eastern Goldfields and adjacent parts of the Gibson Desert prevented any aerial prescribed burning experiments getting underway. The burning has now been postponed until September.

Another party has recently left for the Kimberley to carry out work in association with the Rainforest Survey. The group is due back at the end of June after what we hope will be a more successful trip.

POSITIONS VACANT

Within Research Division

**DEPARTMENT OF CONSERVATION
AND LAND MANAGEMENT**

NATIONAL AFFORESTATION PROGRAM SIX VACANCIES

The Department of Conservation and Land Management in association with the Department of Agriculture and WA Water Authority, has received a grant from the Commonwealth National Afforestation Program to demonstrate the integration of short-rotation eucalypts into farming systems in the south-west of WA. Short-rotation eucalypt crops, combined with appropriate agricultural land management strategies, have the potential to create viable production systems able to arrest land and water degradation problems.

THE POSITIONS:

Six positions are available on two year contracts with possibility of extension for a further year.

Forest Officer	Level 2/4 or 5	(\$23,105-32,249) (\$34,009-37,719)
Hydrologist	Level 2/4 or 5	" "
Economist	Level 2/4 or 5	" "
Technical Officer (2)	Level 3	(\$26,899-29,313)
Technical Assistant	Level 2	(\$23,105-25,897)

Duties will be to work as a team to assess the biological and economic viability of woodpulp/agricultural systems; to determine the hydrologic impact of such systems and to demonstrate and extend the systems as part of integrated catchment management.

QUALIFICATIONS AND EXPERIENCE:

For the 2/4 or 5 Level positions tertiary qualification in a relevant discipline is essential. Appointment to the higher levels will require experience in research and knowledge of land and water degradation problems. Competence in experimental design, statistics, computing, data base management and an ability to communicate with technical and general audiences is desirable.

Tertiary qualification is desirable for the level 3 and 2 positions but relevant experience will also be considered.

LOCATION:

Perth or major south-west centres. Some travel essential.

CONDITIONS OF SERVICE:

General conditions of service similar to those applicable to temporary officers employed under the provisions of the Public Service Act 1978 will apply.

FURTHER INFORMATION:

Application forms and statements of duties and selection criteria available by telephoning (09) 367 0218 or discuss with John Bartle on (09) 367 0297.

APPLICATIONS TO:

Staff Clerk
Human Resources Branch

**DEPARTMENT OF CONSERVATION
AND LAND MANAGEMENT**

50 Hayman Road, Como WA 6152

NO LATER THAN: 5.00pm, Friday, 10 June, 1988

**THE DEPARTMENT OF CONSERVATION AND
LAND MANAGEMENT
IS AN EQUAL OPPORTUNITY EMPLOYER**