



RESEARCH NEWS

The newsletter of the Research Division of the Department of Conservation and Land Management

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EDITORIAL - CHRISTMAS EDITION

It seems incredible that already we are at the end of another year and what's more are about to enter a new decade. 1989 has been a busy and challenging year for many in Research Division and no doubt the forthcoming year will prove to be just as exciting.

I would like to thank many of the staff for their support, contributions and suggestions to this newsletter over the past year and look forward to this continued support in 1990.

Merry Christmas and a prosperous and productive New Year to all our readers. We'll be back again in February (note - no December edition due to holiday period) with hopefully a bumper edition.

Jeanette

ISSUE	DEADLINE	DISTRIBUTION
DEADLINE FOR JANUARY '90 NEXT ISSUE	25 JANUARY	EARLY FEBRUARY



Information from the Research Division Policy Group Meeting

The last meeting of the RDPG was held at the Wildlife Research Centre, Woodvale on 30 November 1989. The following is a summary of discussions from the meeting.

Chief's award for the pursuit of excellence.

A final draft on this award was prepared by Dr Burbidge and forwarded to Corporate Executive. The matter will be further discussed with the General Manager before any implementation of the proposal.

Research Plan

Comments on the Research Plan obtained from last month's Program Leaders meeting were addressed. The meeting endorsed the discussions and conclusions from that meeting. The Plan will continue to be updated on an annual basis. It was noted that the cover design of the 1989/90 Plan was chosen as it represented the State's emblem.

Timetable for Future Program Reviews.

The meeting endorsed comments from last month's Program Leaders meeting. It was agreed that with the new role of the SPRSs there was no need for a "major" review as was conducted in 1988. Reviews would take place at the annual update of the Research Plan. The allocation of resources will be formally addressed at the RDPG retreat next year as will a common topic for a Research Division symposium.

Contingency Fund Applications

Six applications were received totalling \$17821. Due to the current commitments of the Contingency Fund it was agreed that no funds for these applications would be allocated at present. The submissions will be retained and reconsidered later in the financial year.

Criteria Progression - Level 6 to 7 and Level 7 to 8.

Draft procedures for the handling of these criteria progression cases had been prepared by Andrew Burbidge. Considerable discussion

was held on this document. The draft will be revised to incorporate decisions made.

Research Division Seminars 1990

Seminars presented in the 1990 series will be chaired by the relevant SPRS, instead of Ian Abbott. (Ian will continue to organise and coordinate seminars, however).

Research Division Publicity Brochure

Following a suggestion from David Mitchell for the publishing of a publicity brochure it was agreed that Steve Hopper and Jeanette Gilmour should prepare a draft of an A4 leaflet on the Division.

Creation of Level 5 Technical Officer position.

A proposal for the creation of a Level 5 Research Centre Manager at Woodvale had gone to the Department's Reclassification Review Committee meeting and the matter deferred. Tony Start is looking at other relativities - when obtained the issue will be further discussed with the General Manager

Procedures for Technical Officer Performance Appraisals.

Technical staff had raised the issue of having a third person present at their performance appraisals if required. It was agreed that in cases where the supervisor was located at another Centre and was not available to supervise the day-to-day operations of the TO that this idea was practical. Technical Officers could contact their SPRS and request a third party if it was anticipated that there may be some area of conflict.

The next meeting of the RDPG will be held at the Herbarium on 21 December 1989.

RDPG Leave Arrangements

Andrew Burbidge (Director)	Leave 27 Dec - 2 Feb 1990
Acting - Steve Hopper	27 Dec - 2 Jan 1990
Acting - Per Christensen	3 Jan - 19 Jan 1990
Acting - Jim Armstrong	22 Jan - 2 Feb 1990
Per Christensen (SPRS)	Leave 11 Dec - 2 Jan 1990
Acting - Ian Abbott	11 Dec - 15 Dec 1990

Ian Abbott (PRS) Leave 18 Dec - 19 Jan 1990
 Acting - John Bartle 18 Dec - 28 Dec 1989
 Acting Graeme Siemon 1 Jan - 19 Jan 1990

Steve Hopper (SPRS) Leave 3 Jan - 31 Jan 1990
 Acting - Tony Start

Tony Start (PRS) Leave 22 Dec - 3 Jan 1990
 Acting - not required

Jim Armstrong (SPRS) Leave 18 Dec - 19 Jan 1990
 Acting Paul Wilson 18 Dec - 29 Dec 1989
 Acting - Bruce Maslin 3 Jan - 19 Jan 1990

Proposal for a major synthesis of research done into conservation and land management in Western Australia

Regular readers will recall that in the June/July issue of Research News expressions of interest were sought from scientists willing to contribute to writing a book on the above.

Jim Lane, Patrick Pigott, David Pearson, Elaine Davison and Ray Wills expressed an interest in contributing - less than ten percent of the total Research Division professional staff. These five scientists are thanked for their interest. Due to the lack of support the RDPG decided the proposal was perhaps a job for one person only. Any scientist willing to take the project on board him/herself should advise the RDPG.

Australasian Wildlife Management Society 1989 Symposium

The 1989 Scientific meeting of the Australasian Wildlife Management Society will be held in Melbourne from 6 to 8 December 1989. The symposium will address three major issues.

1. Introduced carnivores and their impact on native fauna
2. Sustainable harvesting of wildlife
3. Endangered species management

Senior Principal Research Scientist, Dr Per Christensen, will be CALM's representative at the symposium. Per will present a paper in the endangered species section. The paper deals with the successful re-introduction of the woylie in the northern Perup and Collie area. The following is an abstract from the paper:

EXPERIMENTAL RE-INTRODUCTION OF THE WOYLIE *BETTONGIA PENICILLATA* IN WESTERN AUSTRALIA

Per Christensen and Tom Leftwich

The woylie (*Bettongia penicillata*) is restricted to a very few isolated populations occupying only a fraction of its former range in WA. Detailed studies over a number of years suggest that the fox (*Vulpes vulpes*) is the critical limiting factor preventing expansion of these populations.

Re-introduction of the woylie to areas where it occurred prior to the arrival of the fox is part of the management strategy for this species.

This project, started in the 1970s, describes attempts to re-introduce the woylie into three different areas of its former range. Only one of these re-introductions can be described as a success. The lessons to be learnt from this exercise provide valuable information for further projects of this nature.

SPONSORED TRAVEL

Paul Wilson, Senior Botanist at the Herbarium has recently returned from Canberra. Paul was invited by the Bureau of Flora and Fauna to attend a meeting of the Editorial Committee of the Flora of Australia in Canberra. Fares and accommodation were met by the Bureau. Whilst interstate a visit was also made to the Royal Botanic Gardens in Melbourne in connection with work on the *Helichrysum*, *Helipterum* group of the Asteraceae.



Kevin Kenneally, also of the Herbarium, was invited by the West Australian Gould League to attend the Network of Australian Gould League's National Conference in Melbourne. Attendance at the National Conference was beneficial in that it identified issues relating to community environment in natural history programs.

WORKSHOP ON MOISTURE PROFILES IN TIMBER

The Wood Utilisation Research Centre at Harvey held a workshop on the assessment of moisture profiles in timber on 14 November. The Workshop was attended by forty industry and CALM staff.

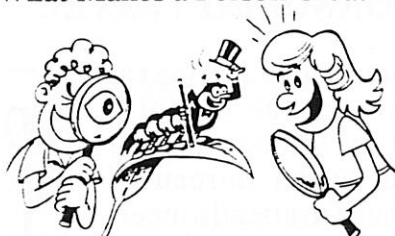
The main speaker was Dr John Davis of the Chisholm Institute of Technology in Melbourne. He has developed a gamma-ray densitometer for W.U.R.C. which assesses moisture profiles and wood density.

The other speakers were Mr Jugo Llic of CSIRO Division of Forestry and Forest Products (the leading wood anatomist in Australia) and Ms Pam Shadbolt, a Research Fellow at the Chisholm Institute. Mr Llic discussed the relationship between wood anatomy and timber drying. Ms Shadbolt referred to her research on identification of rot in power poles using computerised tomography.

Graeme Siemon, Principal Research Scientist

Creativity and Science

"What Makes a Person Creative?!"*



*Summary from Current Comments by Eugene Garfield, in Current Contents, Number 43, October 23 1989

C.P. Snow's famous distinction between "two cultures" separated science and technology from other highly creative (but less quantitative) pursuits such as art and poetry. An article published by design engineer Sue Birchmore discussed the imagery that results from believing that scientific creativity is different from artistic creativity. Birchmore believes that "the best scientists are poets, ---- that the real engineer is an artist," and that poetry and art are in the science itself.

Garfield in his article comments that "contemporary science is subject to pressures greater than any it has ever faced. This is the era of Big Science. More and more, it seems, the

emphasis is on management, publications, tenure, and scrambling for funds to support research for which the answer is already known. What is happening to the love of knowledge and discovery for their own sakes? The exhilaration of being close to an understanding of an important unknown? Is scientific creativity taking a backseat to self-promotion, grandstanding and patent fights?"

Creativity and Mentor Relationships

In the scientific community an important facet of fostering creativity is via the mentor relationship. Mentor relationships have been instrumental in helping young scientists learn to recognize problems. According to A E Pannenberg, a research administrator for the Philips Company in Eindhoven, The Netherlands, it is incumbent upon those who are in charge of research groups to create the conditions that will allow gifted young scientists to adequately follow their creative instincts. Pannenberg states "The more intelligent, the more creative, the more talented the man is, the more you leave him alone." Pannenberg also implies that a factor in creative productivity is a scientist's personality. The following is a list of some of the personality traits exhibited by scientists:

- Assertiveness
- Facility for precise, critical thinking
- High level of general curiosity
- Independence
- Indifference to close personal relationships, group activities, politics
- Loneliness
- Nonconformity
- Reliability
- Shyness
- Scepticism
- Tendency toward preoccupation
- Tendency toward taking risks



A C Leopold of the Cornell University Ithaca, New York noted a decade ago that "The world community recognizes that progress in the arts, in the professions and in science and technology relies exquisitely on the creativity of the people in these professions."

(Note: For anyone wishing to read the article in full - I have a copy at Woodvale - Jeanette)

Master's Program in Human Ecology at the Free University Brussels



A postgraduate course in Human Ecology is organized by the Faculty of Medicine and Pharmacy at the Vrije Universiteit Brussel

The concepts developed in the field of Human ecology are all unified under the perspective of the relationships between man, his societies and the environment. The purpose is to understand the ecological framework in terms of its broad complexity and to stimulate thinking about ecological problems. The program intends to reach an international audience of participants with different scientific backgrounds. It is organized under the auspices of the World Health Organization and endorsed by UNESCO. Further details on the Program are as follows.

Aims:

Provide a postgraduate course on ecological issues based on a broad spectrum of fundamental scientific areas to stimulate interdisciplinarity in environmental work. Open to all holders of an academic degree, obtained at the university or equivalent institution.

Program:

First year: human ecology, environmental and human toxicology, biosphere structure and processes, statistical and computer approach courses, pollution, meteorology and climatology, hydrometeorology, visits, lecture.

Second year: pollution, human systems, resource processes and management, human settlements, ecology and industry, legal and political issues, environmental education, problem solving strategies, environment and development, topics in environmental research, case studies, visits, thesis.

Degree: the successful completion of 2 years of study is regarded with a degree of "Master in Human Ecology" and the "International Certificate in Human Ecology".

Timing: the program starts every year in October. Activities are scheduled on weekdays, exceptionally also on Saturdays.

Fees: Tuition fee approx 290 US \$ per year. Non Belgian students can apply for different grants.

Entry requirements and registration: an "application for admission" form has to be filed out and together with certified true copies of diploma and transcript of academic records it has to be submitted to Prof. C. Susanne, Human Ecology, Vrije Universiteit Brussel, Pleinlaan 2, 1050 Brussel, Belgium. Applications are now accepted for the academic year 1990-91.

Further information:

Prof. L. Hens
Human Ecology
Vrije Universiteit Brussel
Pleinlaan 2, B-1050 Brussel-Belgium
Tel. (023) 641.34.24, country code for Belgium is (32)

SEARCHMAGIC ENQUIRY PROGRAM FOR WOODVALE LIBRARY

The library holdings at Woodvale have now been catalogued using the INMAGIC program. SEARCHMAGIC is an enquiry-only program which is now available for searching the library holdings by title, author or subject or any combination of these. Copies of SEARCHMAGIC are available for regional research stations at a maximum cost of \$580. The program can be run on any IBM compatible machine but requires about 10 megabytes of hard disc space. It is supplied on about 25 floppy discs or on mag tape. This is obviously not as good as a visit to the library, but may make library searches easier for research scientists who are not based at Woodvale. If your research centre would like to obtain a copy of SEARCHMAGIC please contact Hugh Clift at the library.

Elaine Davison, Senior Research Scientist

ANPWS State Assistance Program 1989/90

ANPWS has provided funding for the following Research Division projects for the 1989/90 financial year.

- | | |
|--|-----------------|
| 1. Western Swamp Tortoise Captive Breeding (Dr A A Burbidge) | \$15 000 |
| 2. <i>Drupella</i> Life History, Ningaloo (Dr J Stoddart) | \$35 000 |
| 3. Endangered Eucalypt Survey (Dr S Hopper) | \$32 200 |
| 4. Marine turtles (Dr R Prince) | \$15 000 |
| Total | \$97 200 |

AWRAC (Australian Water Research Advisory Council)

Dr Stuart Halse has received \$106 000 over 21/2 years from AWRAC to research waterbird usage of wetlands of the Swan Coastal Plain. A proportion of the funds will be used to employ a Research Scientist.

Scientific and Technical Publications

The following have recently been approved for submission for publication:

- Author(s): P N Shedley
 Title: Furniture manufacturing in Italy - A study tour
 For submission to: WURC Technical Report
- Author(s): A A Burbidge
 Title: *Ilangnalya* - Kimberley possum
 For submission to: Wildlife Australia
- Author(s): G K Brennan
 Title: Drying 25mm boards milled from re-growth jarrah logs
 For submission to: WURC report
- Author(s): R Classen-Bockhoff, J A Armstrong and M Lehne
 Title: The Inflorescences of the Australian Genera *Diplolaena* R.Br. and *Chlorilaena* Edl. (Rutaceae).
 For submission to: Australian Journal of Botany
- Author(s): N Burrows, G Gardner, B Ward and A Robinson
 Title: Regeneration of *Eucalyptus wandoo* Blakely following fire
 For submission to: Journal of Australian Forestry
- Author(s): J A Stoddart
 Title: Analysis of water quality in Shark Bay and Coral Bay (August/October 1989)
 For submission to: Landnote
- Author(s): A Postle and I Abbott
 Title: Termites of economic significance in suburban Perth, Western Australia : Their distribution and association with types of wood
 For submission to: Australian Entomology Journal
- Author(s): S A Halse, I R James, P E Fitzgerald, D A Diepereen, D R Munro
 Title: Survival and shooting mortality in Pacific Black Ducks and Grey Teal
 For submission to: Journal of Wildlife Management
- Author(s): K F Kenneally
 Title: Checklist of vascular plants of the Kimberley
 For submission to: WA Naturalist Handbook

The following have recently been published:

- David Ward, Monitoring Community Attrition. *Biological Conservation* 50 (1989) 137-142.
- Andrew A Burbidge and N L McKenzie. Patterns in the modern decline of Western Australia's Vertebrate Fauna : Causes and conservation implications. *Biological Conservation* 50 (1989) 143-198.
- N L McKenzie, L Belbin, C.R. Margules and G J Keighery. Selecting representative reserve systems in remote areas : a case study in the Nullarbor Region, Australia. *Biological Conservation* 50 (1989) 239-261.
- J M Brown. Regional variation in kwongan in the central wheatbelt of south-western Australia. *Australian Journal of Ecology* (1989) 14, 345-355.
- S.D. Hopper and A.H. Burbidge. Conservation status of *Banksia* woodlands on the Swan Coastal Plain. *Journal of the Royal Society of W.A.*, 71 (4), 1989 115-116.

Research Project Plans

The following Research Project Plans have been approved this month:

- No: 30/89
 Title: Ecology of remnant salmon gum (*Eucalyptus salmonophloia* F. Muell.) woodland near Lake Taarblin, W.A.
 Officer in Charge: Patrick Pigott
- No: 31/89
 Title: The effect of pre-steaming and hot water soaking upon the drying behaviour of three Eucalypts
 Officer-in-charge: Brett Glossop
- No: 32/89
 Title: Rizolex application to pine seedlings
 Officer-in-Charge: Elaine Davison
- No: 33/89
 Title: An equilibrium moisture content survey of timber in Western Australia
 Officer-in-Charge: Bruce Mattinson
- No: 34/89
 Title: Wood moisture loss in *E. Globulus*; pilot study
 Officer-in-Charge: Bruce Mattinson

Merry Christmas