

# RESEARCH INFORMATION NEWS



Department of Conservation and Land Management

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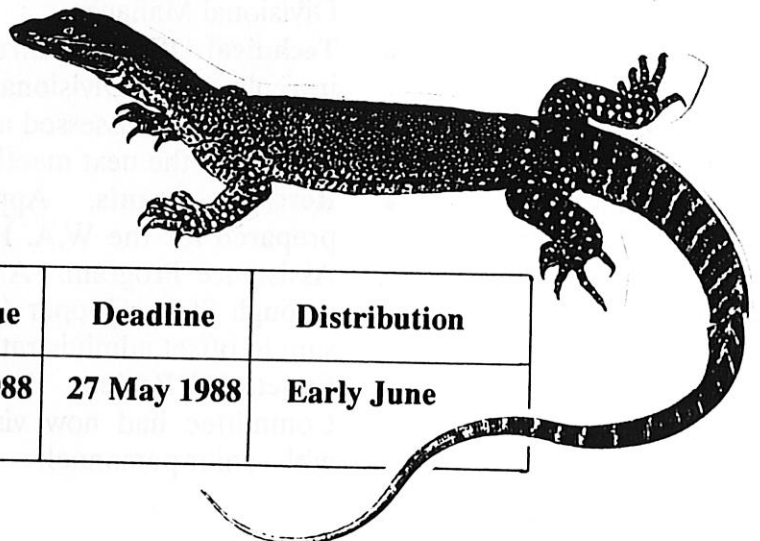
## Editorial

*Here we are again so soon. Thank you for your positive feedback - it's nice to know the effort's worthwhile.*

*April has been a hectic month for most of Research Division with the program reviews spread across the month. This proved a worthwhile exercise in the dissemination of information across the Division and to other interested CALM personnel.*

*For this edition we have a number of contributions including a long promised report from Angas Hopkins on Nature Conservation and the Greenhouse Effect. Thanks also to Neil Burrows, Mike Choo and Ian Abbott for their contributions; A few contributions from our country readers wouldn't go astray - how about it for the next edition!!*

*Ed.*



	Issue	Deadline	Distribution
Deadline for Next Issue	May 1988	27 May 1988	Early June

## INFORMATION FROM THE APRIL RESEARCH DIVISION POLICY GROUP MEETING

The Research Division Policy Group held this month's meeting at the Manjimup Research Centre. The meeting was followed by a field trip to see the karri site typing. Unfortunately the weather did not treat the visitors well as wet weather gear was the order of the day. The RDPG extends their appreciation to Lachie McCaw and Grant Wardell Johnson for organizing an informative outing (despite the elements!)

### Information from the Meeting

- **Weed Research.** The RDPG are currently investigating ways of getting a pilot program underway in the area of weed research within the Division.
- **Revision of the Five Year Research Plan.** A rewrite of this plan will be drafted by October - after Policy Directorate have endorsed decisions made from the Program Reviews. It is anticipated that the reviewed Research Plan will incorporate a number of new sections, including:
  - staff growth and development plan
  - building plan
  - history of Research Division
  - duties of senior personnel
  - list of external funding
  - table of CALM regional geographical distribution of research effort
  - scientific plan
  - interface with management plan
- **Representation on Training and Development Committee.** Representation by Research Division on this committee was reconsidered. Due to the senior representation on the committee it was felt that the PRS (management) should attend these meetings for a trial period. This decision to be endorsed by the Divisional Manager.
- **Technical Officer - Karratha.** Two responses had been received in reply to the Divisional Manager's call for interest. The matter will be further assessed along with transfer mechanisms for technical staff at the next meeting.
- **Research Grants.** Applications for research grants had been prepared for the W.A. Heritage Commission and ANPWS States Assistance Program. All grant applications should be forwarded through Steve Hopper (or Ian Abbott) and should incorporate a sum to offset administrative costs (eg typing etc).
- **Functional Review.** Peter Newman from the Functional Review Committee had now visited major research centres and talked with senior personnel.

# FIRE RESEARCH IN SOUTH COAST SHRUBLANDS

The Fire program held a workshop in Albany recently to discuss fire management issues in the South Coast Region and to review proposed fire research. The Workshop, which involved Regional and District staff, provided an opportunity for information exchange as well as a field inspection of potential fire research study sites.

Resolutions arising from the workshop were:

1. The broad objectives and methods proposed by Lachie McCaw for studying fire behaviour and effects in shrublands were accepted.

2. Fire behaviour research will initially concentrate in the South Coast Region rather than the Greenough Region. Factors influencing this decision included:

- the large area of heath and mallee vegetation in parks and reserves in the South Coast Region.

- the need for sophisticated fire management programs for important parks such as Fitzgerald River and Stirling Ranges.

- there is a history of wildfires and of difficulties in predicting fire behaviour in inland heathland mallee heaths.

- suitable study sites are available in the Stirling Ranges which are close to Albany and reasonably close to the Manjimup Research Centre.

3. Research into fire behaviour and fire effects will be closely integrated. Fire program members Lachie McCaw, Angas Hopkins and Gordon Friend will conduct integrated and complementary fire research to provide a window into the most appropriate fire management for these vegetation types.

Pilot studies will commence in the next 6 months or so. The project is expected to run for about 5 years (intensively) and will then be scaled down to monitoring over longer intervals. Results from this work are expected to have wide application in the South Coast Region. Certain findings may have application in the Greenough Region.

**N Burrows**

# NATURE CONSERVATION AND THE GREENHOUSE EFFECT

In February/March this year, Angus Hopkins from the Woodvale Research Centre travelled to Canberra to participate in a Conference and a Workshop on aspects of global climate change. The Symposium was organized by the Australian Academy of Science as a part of Australia's contribution to the IGBP. It consisted of two days of background presentations and one and half days of workshop and plenary discussions.

The subsequent Workshop at the CSIRO Division of Wildlife and Ecology, Gungahlin, was organized by Dr Brian Walker, Chief of that Division, in his capacity as member of IGBP Committee and Chairman of the Panel on Effects of Climate Change on Terrestrial Ecosystems. The Workshop was attended by thirty scientists from around the world. The objective was to prepare a detailed program of research to be implemented globally to address problems likely to arise in terrestrial ecosystems as a consequence of global change.

The International Geosphere-Biosphere Program (IGBP) will be a decade-long, comprehensive, interdisciplinary research program, coordinated by the International Council of Scientific Unions, to understand better the natural and human-induced changes to the geosphere-biosphere system on time-scales of decades to centuries. A decision on implementation of the IGBP will not be made until about 1990 but in the meantime, considerable effort is going into identifying the major issues and designing research projects that will allow us to deal with those issues.

Two major environmental issues face society as we move towards the 21st Century:

- the continuing increase in the world's population, and
- likely global climatic changes as a consequence of the so called Greenhouse Effect.

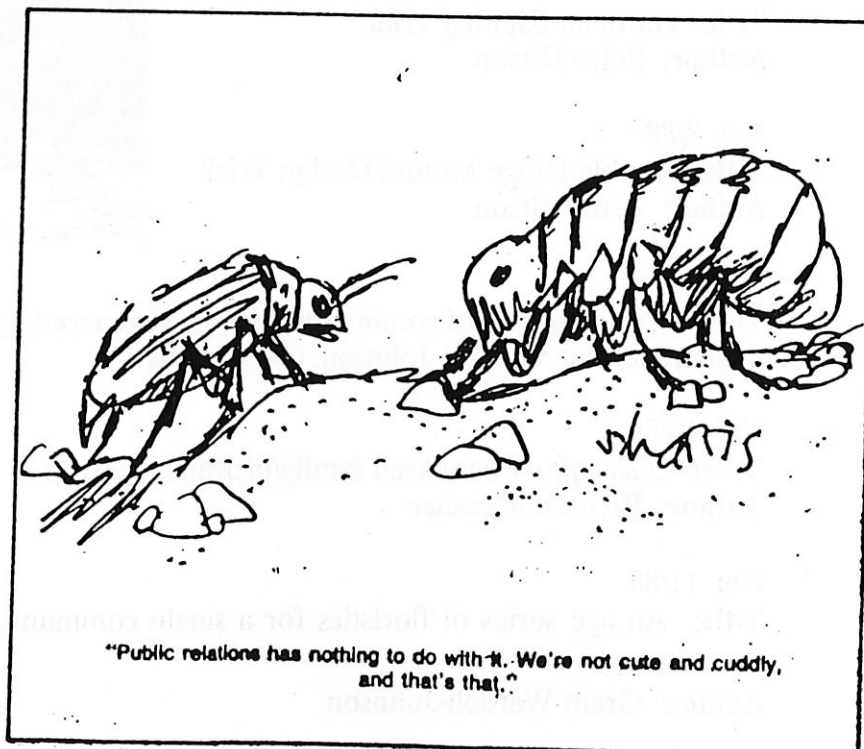
Some general background on the Greenhouse Effect and its likely consequences for aspects of CALM's work are outlined in an article in the recent "Landscape" by John Blyth and Philip Noyce. It is generally predicted that the south-west will get drier over the next 50 years, for example. This will affect timber production including in plantations, wetland management and nature conservation generally.

Angas' working group at the Workshop dealt with the topic "The Implications of climatic change for the maintenance of biological diversity" Scientific questions to be addressed are:

- What are the distributions and abundances of species now?
- How will species respond to different climatic changes by moving or evolving?
- Where should reserves be sited to encompass the most species now and in the future?
- How should non-reserve areas be managed to complement the role of reserves in maintaining species diversity?
- How do we separate the overriding effects of land use change from the effects of climatic change?

The skeleton of a research program to address these problems at a global level was prepared and discussed by the group. This will be taken to the next meeting of the IGBP Committee for discussion and possible adoption.

One of the potential outcomes of Angas' involvement in the Symposium and Workshop is that CALM may become part of the international research program set up under IGBP. This could provide a valuable and welcome boost to nature conservation work in this State.





## RESEARCH PROJECT PLANS

The following Research Project Plans have been approved to date:

**No:** 1/88

**Title:** *Eucalyptus marginata* family/provenance trials

**Author:** Richard Mazanec

**No:** 2/88

**Title:** Effect of thinning and fertilizing on (i) growth (ii) water relations, and (iii) nutrient relations of trees and stands of pole to pile sized jarrah

**Author:** Geoff Stoneman

**No:** 3/88

**Title:** The effect of drill spacing on the success of "Roundup" and "Tordon Timber Control" for killing jarrah pole sized trees using the drilling method

**Author:** Geoff Stoneman

**No:** 4/88

**Title:** Comparison between "Roundup" and Tordon Timber control" for killing jarrah and marri pole sized trees in summer, autumn, winter and spring using the drilling method

**Author:** Geoff Stoneman

**No:** 5/88

**Title:** Species selection for difficult highly saline/water logged sites

**Author:** Peter Ritson

**No:** 7/88

**Title:** Hardpan Ripping Trial

**Author:** Peter Ritson

**No:** 8/88

**Title:** Double Ridge Mound Design Trial

**Author:** Peter Ritson



**No:** 9/88

**Title:** Trial Mapping of community types in regenerating karri forest

**Authors:** Grant Wardell-Johnson, Gary Inions

**No:** 10/88

**Title:** *Eucalyptus microtheca* family/provenance trials

**Author:** Richard Mazanec

**No:** 11/88

**Title:** An age series of floristics for a single community type in karri forest

**Author:** Grant Wardell-Johnson

## SCIENTIFIC AND TECHNICAL PUBLICATIONS



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

Author(s): J A Friend & N D Thomas  
Title: The Water-Rat (*Hydromys chrysogaster*) on Dorre Island, W.A.  
For submission to: W.A. Naturalist

Author(s): GR Siemon & DJ Donnelly  
Title: Graded recoveries of timber milled from radiata pine logs from different thinning treatments  
For submission to: Wood Utilization Research Centre Reports

Author(s): G R Siemon  
Title: Using Pine Timber  
For submission to: Wood Utilization Research Centre Reports

Author: G K Brennan  
Title: Penetration of Copper-Chrome-Arsenic preservative into regrowth Jarrah posts  
For submission to: Wood Utilization Research Centre Reports

Author(s): G R Siemon, K J White & A B Thomson  
Title: Sawmilling Study of agroforestry and conventionally grown radiata pine  
For submission to: Wood Utilization Research Centre Reports

Author(s): B Glossop  
Title: Assessment of "Viva 20" Capacitance Type Moisture Meter  
For submission to: Wood Utilization Research Centre Reports

Author(s): A Chapman & K R Newbey  
Title: A vertebrate fauna survey and some notes on the vegetation of the Ravensthorpe Range WA  
For submission to: CALM Technical Report

Author(s): GR Friend & D S Mitchell  
Title: Efficient pitfall trap designs for surveying small vertebrates  
For submission to: CALM Landnote

Author(s): G J Keighery  
Title: A new species of *Samolus* (*Primulaceae*) from Western Australia  
For submission to: Nordic Journal of Botany

## COMPUTING NEWS

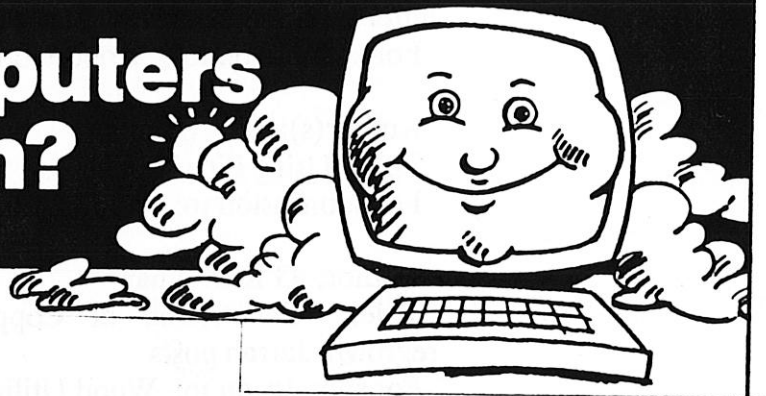
### FILE CATALOG SYSTEM

A PC based File Catalog System has been developed at Woodvale.

The system is designed to enable the PC USER to manage their files. It produces and maintains a catalog of all computer disk files together with associated information (eg. Description, Disk Id & Location).

Those interested should contact P. Gioia, M. Choo or P. Prout.

# Who said computers weren't human?



FROM THE PEN OF THE EMINENT BIOMETRICIAN R A FISHER

In the endeavor to improve the logical foundations of scientific experimentation, *factorial design* has proved one of the most fruitful developments. To those familiar with modern agricultural research, it may now be difficult to realize that Fisher (1926) should ever have needed to write: "No aphorism is more frequently repeated in connection with field trials, than that we must ask Nature few questions, or, ideally, one question, at a time. The writer is convinced that this view is wholly mistaken. Nature, he suggests, will best respond to a logical and carefully thought out questionnaire; indeed, if we ask her a single question she will often refuse to answer until some other topic has been discussed."



- **PAST EVENTS**

Many thanks to Marg Wilkie and John Dorlandt for organizing the last sundowner at Como Research after the staff meeting. The occasion proved successful and it was great to see so many officers from the country centres in attendance.

- **COMING EVENTS**

Next seminar

Date	Speaker	Topic
19 May 1988	Neville Marchant	Taxonomic research - <i>Drosera</i> ; a case history

The above seminar commences at 3.00pm in the Training Centre at CALM Head Office, Como.

- **PROGRAM LEADER CHANGES**

**Flora Conservation Program**

As a consequence of Steve Hopper's promotion to Senior Principal Research Scientist, Dave Coates has taken over the role of Program Leader of the Flora Conservation Program.

**Plant Diseases Program**

Due to the forthcoming departure of Joanna Tippett, Bryan Shearer has taken over the role of Program Leader of the Plant Diseases Program.

- **TRIVIA - OF THE NOT SO TRIVIAL VARIETY!**

**Edison's success notes**

*One of the greatest inventors and entrepreneurs the west has ever seen, Thomas Edison, had a great deal to say about success and the acquisition of its trappings. Here are some distilled bits of Edisonian wisdom.*

- *There is far more opportunity than there is ability.*
- *The yearning of man's brain for new knowledge and experience and for more comfortable and pleasant surroundings never can be completely met. It is an appetite which cannot be appeased.*
- *Everything comes to him who hustles while he waits.*
- *The very first thing an executive must have is a fine memory. Of course it does not necessarily follow that a man with a fine memory is necessarily a fine executive. But if he has the memory, he has the first qualification and if he has not the memory nothing else matters.*
- *Genius is one percent inspiration and ninety nine percent perspiration.*
- *The best thinking has been done in solitude. The worst has been done in turmoil.*

# POSITIONS VACANT

within Research Division

## CONSERVATION AND LAND MANAGEMENT

### ADMINISTRATIVE ASSISTANT

Position No. P1144170, Level 3, Administration Section, Research Branch. Salary: \$26 899-\$29 313 p.a.

**Qualifications and Experience:** One English and three other Year 12 accredited course subjects in the certificate of secondary education at Grade D or better, or four full-year subjects that can be taken as part of a technical education division Diploma or two year full-time certificate including communications, or alternative qualifications approved by the board.

**Duties:** Prepares budget and monitors expenditure for the Research Centre, Manjimup. Manages the administration of the Manjimup Research Section.

**Location:** Manjimup.

**General:** "A" class driving licence essential. Intending applicants can obtain a standard application form and statement of duties and selection criteria by telephoning (09) 367 0218. For further information contact: Mr McCaw, telephone (097) 71 1988.

**Applications to:** Personnel Officer, Department of Conservation and Land Management, 50 Hayman Road, Conio WA 6152.

## AGRICULTURE

### LIBRARIAN (HERBARIUM)

Position No. P0001406, Level 2/4 (Clause 7), Library Section, Personnel and Management Services Branch, Administration Division. Salary: \$23 106-\$32 249 p.a.

**Qualifications and Experience:** ALAA or Bachelor of Applied Science (Library Studies) or Graduate Diploma in Library Science or equivalent qualifications. The successful applicant must be a good communicator and have had general experience in cataloguing and reference work, preferably in a special library. Knowledge of current developments in the library and information science field is essential. A scientific background, preferably in botany, would be an advantage as would experience in acquisitions and in library financial management.

**Duties:** The librarian maintains the collections, indexes material for the Herbarium, and provides a reference and information service.

**Location:** South Perth, however officers may be required to work anywhere within the State.

**General:** Further information, applications forms, position data forms and selection criteria are available from Librarian, Department of Agriculture, Baron-Hay Court, South Perth 6151. Telephone: (09) 368 3333. Applications should detail position number, qualifications, experience and the names of two referees.

**Applications to:** Personnel Officer, Department of Agriculture, Baron-Hay Court, South Perth WA 6151.

Applications close 5.00pm 19 May 1988