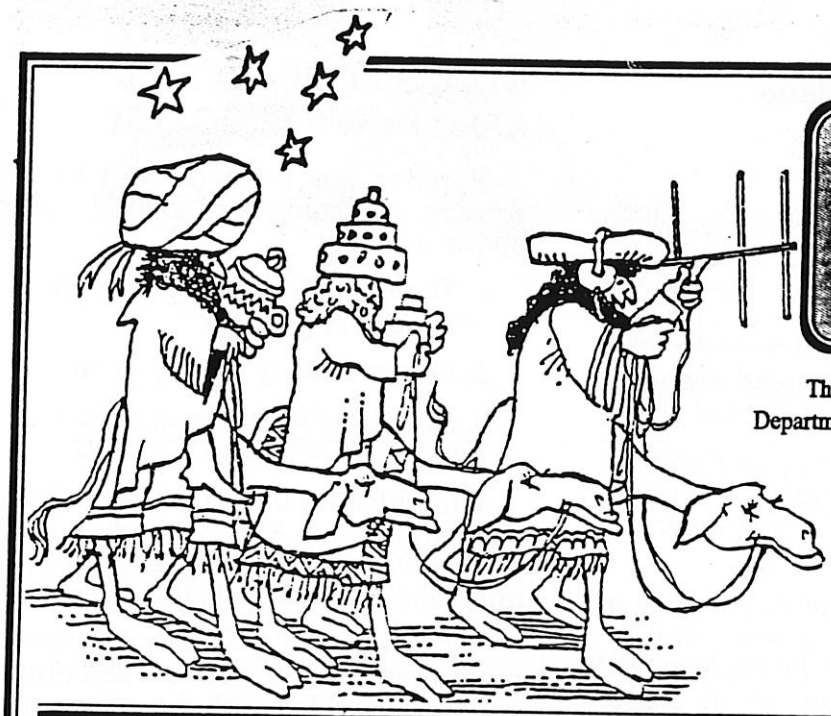

RESEARCH NEWS

The newsletter of the Research Division of the
Department of Conservation and Land Management
Editor:
Christine Farrell
Wildlife Research Centre
PO Box 51 Wanneroo WA 6065
Telephone: 4055 105

EDITORIAL

No: 9/91

December 1991

Time passes so quickly that Christmas is upon us once again. With only a few weeks to the end of the year and the start of the holiday season this will be the last newsletter for the year.

1991 has been a full year with staff attending Interstate conferences, seminars, workshops and an Australian Geographic expedition. Research Division staff have also been successful in the inaugural Alex Harris Award and the Executive Director's Post Graduate Scholarship.

I would like to thank many of the staff for their contributions and support including Jill for her expertise in the publication of the Research News. I look forward to your continued support in 1992 and wish you all a Merry Christmas and a Prosperous New Year.

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FROM THE DIRECTOR

I would like to thank all staff for their support to me and to other RDPG members and for their hard work over the past year. With diminishing staff numbers and finance, times are not easy, especially when we are asked to do more with less. In addition, there have been some significant changes in duties and responsibilities to which the vast majority of staff have responded positively.

I strongly believe that our Research Division is by far the best of any of the research groups in similar organizations anywhere in Australia. This is because we have good staff and good support from the Department's senior management and the public. Anyone who has travelled to the eastern States over the past few months realises the difficulties that some of our sister organizations now find themselves in and comes back with a renewed enthusiasm for CALM. However, this does not mean that we can not and should not continue to improve and update our research and organization.

I wish all Research Division staff a very happy Christmas and a rewarding and productive New Year.

Andrew Burbidge

Hypocalymma longifolium: A species refound and a mystery solved

Hypocalymma longifolium was described by Ferdinand von Mueller in 1860 from a collection made by Oldfield around the Murchison River. The species was thought not to have been re-collected since the type, and has been listed as presumed extinct in State and Federal lists of threatened plants.

However, for some years a pink flowered, long leaved *Hypocalymma* of unknown origin has been grown as *Hypocalymma longifolium* throughout Australia.

During studies undertaken for a review of the genus for the Flora of Australia, we were able to study the type of *H. longifolium*, and determined it was related to *H. angustifolium* (white or swamp Myrtle) and not *H. strictum* as previously thought.

Comparison of the cultivated material and herbarium collections showed that the cultivated "*H. longifolium*" is an undescribed subspecies of *H. strictum* (with long leaves and pink flowers) which is restricted to the area between the Stirling Ranges and Wellstead. This may in itself prove to be an endangered taxon, but that was one mystery solved.

Checking through the *Hypocalymma angustifolium* folders, we located a collection made by W.E. Blackall in 1932, of what was undoubtedly *H. longifolium*. The collection was made according to the label between Northampton and Lynton. However, since it was made over 50 years ago, the species remained as presumed extinct.

Again fortune smiled, and I was able to accompany those two Bon Vivants of the Flora Conservation Program, Ron Sokolowski and David Coates, on a rigourous trip to the area. (This included dinner with the Hon. Tim Fisher, federal leader of the National Party, who thought Ron was Joe prematurely reincarnated - but that's another story.) We assumed that any decent *Hypocalymma* related to *H. angustifolium* would grow in swamps, and after a few detours we found a very large population of *Hypocalymma longifolium* in one of the uncleared springs north-east of Port Gregory.

If a reserve can be created for the now declared endangered *H. longifolium* its future will be more secure.

Greg Keighery
November 4, 1991

STATES COOPERATIVE ASSISTANCE PROGRAM

Funding has been offered for three projects continuing from 1990/91 under the above program:

1. The early life history of Drupella in Ningaloo Marine Park

2. Conservation of Marine Turtles

3. Survey and inventory of Flora and Fauna of South Coast Wetlands.

Unfortunately due to the heavy financial commitment by ANPWS with continuing projects it is unable to fund any new projects under the above scheme this year.

While the SCAP Selection Committee recognised that several of the new proposals had considerable merit, there were insufficient funds to support them.

Report on attendance at the Conference on Conservation Biology in Australia and Oceania University of Queensland

September 30 to October 4 1991

The prime purpose of this trip was to present summaries on current research on the problems of disease in plant communities and their control and to obtain an overview of conservation research in Australia. I presented three papers covering the impact and control of *Phytophthora* species and the impact of canker fungi on *Banksia coccinea*.

Informal discussion during seminar breaks quickly established that, while conservation biologists readily accept that disease is a factor affecting fauna conservation, they are surprised that disease is having a considerable impact on flora. Utter dismay was often expressed when the effects of disease on plant communities in south-western Australia were described. However towards the end of the conference there was a tendency for some to dismiss the effects of plant diseases as a "Western Australian problem".

Attendance of sessions where plant disease papers were presented were relatively small compared to other sections. However plenty of questions and discussion often followed presentations. I think that CALM representatives certainly helped increase general awareness of the need to consider

plant diseases in the conservation of wildlife.

Overall I found the very diverse range of subjects presented in symposia and paper sessions fascinating and provided a good summary of conservation biology in Australia. The marine field trip highlighted the pressing practical problems of how to conserve long lived species with long migratory distances between breeding and feeding areas.

B L Shearer
Principal Research Scientist

STAFF NOTES

Congratulations to Neil Burrows, winner of the Executive Director's Post Graduate Scholarship

NEW PUBLICATION - *Kimberley Rainforests of Australia*, edited by N L McKenzie, R B Johnson and P G Kendrick, was launched by the Minister, the Hon Bob Pearce, MLA on Tuesday 10 December 1991.

LETTER FROM THE PILBARA REGION to all Woodvale staff

"As you are aware, I am now a salaried Technical Officer. I thank you all for the support and encouragement you have given me over the years in helping me reach my goal. A special thank you goes to Jack Kinnear, Mike Onus, Keith Morris, Stephen van Leeuwen, Tony Start and Phil Fuller for their knowledge and guidance.

Bob Bromilow"

Research Division - Christmas get-together

This year's get-together will be held at Woodvale on Thursday 19th December commencing 1.00pm

All Research staff welcome to attend.

BBQ lunch (BYO meat etc). We will provide the salads and buns at a cost of $1.00 per person.

Drinks - buy as you go.

Please let your Admin Assistant or Christine Farrell (4055105) know for numbers.

A Table Tennis challenge will be organised, so organize your teams!

11th Conference on Fire and Forest Meteorology, Missoula, Montana, USA

April 1991

During April and May of this year I was fortunate in having the opportunity to spend two months in the Western United States on a study tour of fire research and management in shrublands and dry forests. This travel was made possible by a grant from the Ralph Maxwell Jacobs Fund, which is administered jointly by the Institute of Foresters of Australia and the Australian Academy of Science. CALM also assisted with the provision of a study grant.

Wildland fire science is well advanced in North America with both Canada and the United States maintaining active, nationally coordinated research programs. Land management agencies play a leading role in fire research with academic institutions and, increasingly private consultants also making a significant contribution. An important focus for the fire research community are the biennial Fire and Forest Meteorology Conferences sponsored by the American Meteorological Society and the Society of American Foresters; this years conference at Missoula was the eleventh in the series.

Contributed papers spanned a wide range of topics and were grouped into 5 broad subject areas:

- fire danger rating/ fire management
- fire behaviour and use
- fire effects
- smoke management
- fire meteorology

Presentations were evenly divided between oral and interactive poster formats and were, with few exceptions, of a high standard befitting the international flavour of the conference. As with previous conference in the series, all papers are to be published in a formal proceedings.

Although the theme of the 1991 conference was computer application in fire management, the proportion of papers specifically addressing this theme was not markedly greater than has been typical of recent bushfire conferences held in Australia. In contrast, several issues which received considerable emphasis at Missoula have yet to attain a high profile in Australian fire management; these included smoke emissions and air quality management, and

the prediction of fire season severity on a regional or continental scale.

On present indications, smoke management appears set to become an important issue for Australian fire managers during the coming decade, thereby adding a further constraint to prescribed burning programs in some states. The adoption by most states of more stringent occupational health legislation is also likely to focus attention on the effects of bushfire smoke on firefighters.

The ability to predict fire season severity some time in advance provided considerable scope for long-term cost savings through optimising the level and deployment of fire suppression resources. This has particular application in the United States due to the massive scale of fire suppression operations, the existence of well co-ordinated interagency facilities and the continental nature of wildland fire problems. While the Australian scene is in many respects different, the ability to predict severe spring/summer droughts would no doubt assist rural fire authorities and land management agencies in their planning for the fire season.

Fire managers were well represented at the conference, and there were several interesting presentations based on case-studies of significant wildfires. Most organisations now utilise trained fire behaviour (fire intelligence) analysts during major fire situations, and these individuals are well placed to gather valuable fire behaviour data; often, wildfires are the only source of information on extreme fire events. With the proliferation of advanced modelling techniques in wildland fire science, the need for reliable field data for model validation has never been greater.

An encouraging feature of the Missoula conference was the strong representation by Australians (10) and New Zealanders (2). Although this occurred largely by chance it is hopefully indicative of a renewed interest in fire research in Australasia. Therefore it was perhaps appropriate that a proposal to stage the 13th conference in Australia in 1995 was enthusiastically received by most delegates. A small group has undertaken to examine the feasibility of this proposal and to investigate suitable locations for the conference.

Following the conference I travelled to Yellowstone National Park and spent several days examining regenerating Lodgepole pine communities burnt by the extensive fires of the 1988 season; some 400 000 ha were affected by the fires, putting them on a par with the 1991 fires in the Lake King/Dundas area of Western Australia.

Later stages of the trip took in the Ponderosa pine forests and interior chaparral shrublands of Arizona, rangeland fire management in west Texas, and the coastal chaparral of the Los Angeles basin.

During the course of the visit I made a number of valuable contacts and assembled a large amount of literature dealing with fire management and fire ecology; I would be glad to make this available to interested individuals.

Lachlan McCaw
Manjimup Research Centre

The Scientific Management of Amenity Trees in Western Australia

Conference 12th & 13th November
Perth Zoological Gardens

Five CALM officers including myself, Elaine Davison, Francis Tay, Brian Morgan and Wally Edgecombe attended this well presented two day conference. Except for the faulty slide projector the Zoo facilities are first class which added to the impact of the presentations of all speakers. The conference was jointly sponsored by the Arboricultural Association and the Royal Australian Institute of Parks and Recreation.

Four of the speakers were from the Victorian College of Agriculture and Horticulture Burnley. Dr James Hitchmough raised issues on planning and management of urban tree resources, using his own interesting vernacular set of phrases. Dr Greg Moore emphasised tree establishment problems peculiar to amenity trees as well as common horticultural problems and branch attachment. Phillip Kenyan, a giant of a man, spoke on pruning principles and led a hazard tour of the zoo gardens with many of the smaller to medium sized trees almost falling victim to Phillip's vigorous shaking test. Phillip Smallman introduced us to a system of arboricultural standards that is documented and will be published around February 1992. These will have some legal ramifications for urban tree managers.

Amongst our local speakers was Dr Elaine Davison who introduced many of those present to their first insight into

pathogenic fungi and host response on a microscopic level. Rob Bodenstaff showed an impressive series of slides on transplanting of large trees within Western Australia and interstate.

One desirable piece of machinery mentioned at the conference was called an air knife, which is used for excavating root systems without damaging roots in most material except rock and clay. Basically it consists of a high pressure air jet combined with a vacuum for removing soil and is used to provide aeration to compacted soil though the applications for all those researchers who dig up roots is obvious. A demonstration video is being ordered and anybody interested should contact me at Como on 3670306.

Colin Crane
Como Research

Paper title: Domin's Australian grass types come to light

Author: Terry Macfarlane, WA Herbarium, Department of Conservation and Land Management, Perth

Published in: Australian Systematic Botany Society Newsletter No 68 (1991).

Abstract

The Czech botanist Karel Domin published many new taxa of Australian plants, including many grass taxa based on his own Australian collections. A large number of his grass type specimens have been reported missing. This paper was prepared as information for other Australian taxonomists. It reports the relocating of these specimens whilst the author was in Europe as Australian Botanical Liaison Officer in 1990, the circumstances in which they were mislaid, and what should be done with them.

Research Project Plans

The following Research Project Plans have been approved for this month.

No:	155/91
Title:	Floristic survey of woodlands and heaths on the Swan Coastal Plain
Supervising Scientist:	A H Burbidge and N Gibson

No:	153/91
Title:	Burning thinning slash in young karri stands
Supervising Scientist:	L McCaw & P Hewitt

Scientific Publications

The following have recently been approved for submission for publication.

Author:	Christensen, P.
Title:	The Karri Forest - Its Conservation Significance and Management
For submission to:	special publication by CALM

Author:	Green, A., Halse, S. and Knott, B.
Title:	Rediscovery of *Haloniscus stepheni* Nicholls & Barnes 1926 (Crustacea: Isopoda)
For submission to:	Records of Western Australian Museum

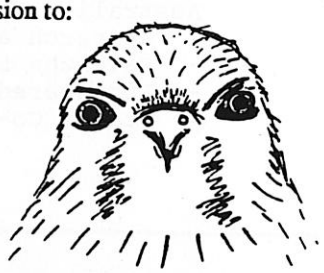
Author:	Abbott, I.
Title:	Monitoring of outbreaks of defoliating insects in Jarrah forest, South-western Australia, from 1960 to 1990
For submission to:	CALM Technical Report

Author:	Watkins, D. and Burbidge, A.H.
Title:	Conservation of the Ground Parrot in Western Australia
For submission to:	RAOU Report Series

Author:	Burbidge, AH, Leicester, K., McDavitt, S. and Majer, J.D.
Title:	Ants as indicators of disturbance at Yanchep National Park, WA
For submission to:	Journal of the Royal Society of WA

Author:	Tucek, M.
Title:	Relationship between visible external log characteristics and product recovery in Jarrah
For submission to:	WURC Technical Report No 37

Author:	Tucek, M.E. & Mathews, L.R.
Title:	Veneer production from small marri logs
For submission to:	WURC Technical Report No. 36



Guide to Commonwealth Competitive Research Funding Schemes

This useful guide briefly describes all Commonwealth grant-giving schemes. It is indexed by granting agency titles. Under each title there is:

* a brief statement of the agency function and objectives
* available funding amount (for most of them)
* an indication of the types of project that are funded
* an agency contact address for more detail.

The guide will be updated each year. I have placed a copy of the 1991 guide in the Library at Woodvale. Copies can be obtained free from:

The Editor, Guide to Commonwealth
Competitive Research Funding Schemes
Research Policy and Grants Branch
Higher Education Division
Department of Employment, Education and Training
GPO Box 9880
CANBERRA CITY ACT 2601
Tel: (06) 276 7187
Fax: (06) 276 7188

(I faxed my request and received my copy within 10 days.)

A N Start
Principal Research Scientist

EXAMPLE:

THE LAND AND WATER RESOURCES RESEARCH AND DEVELOPMENT CORPORATION

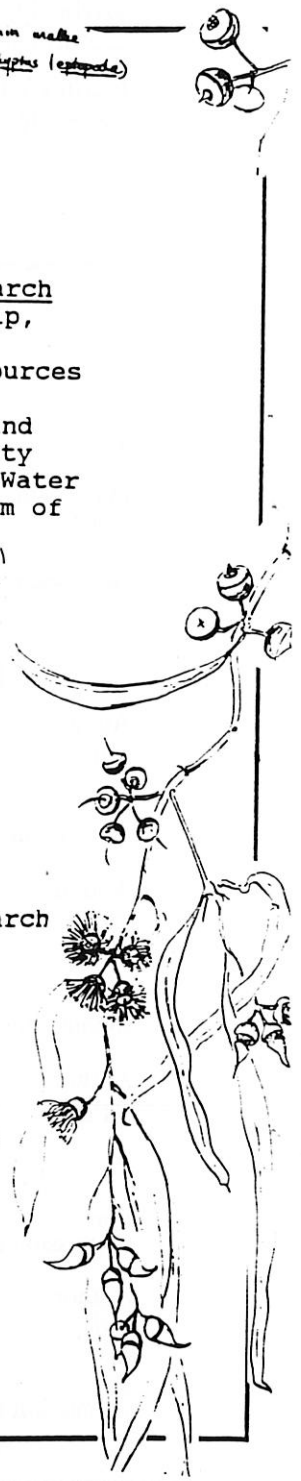
The Corporation is a Commonwealth statutory authority established under the Primary Industries and Energy Research and Development Act 1989. It provides national leadership, funding and coordination of research and development activities in relation to Australia's water and soil resources and also covers forestry and vegetation research and development activities which directly impact upon water and soil resources. The Corporation has assumed responsibility for the activities formerly undertaken by the Australian Water Research Advisory Council and the research and sub-program of the National Soil Conservation Program.

Contact

The Executive Director
Land and Water Resources Research and
Development Corporation
GPO Box 2182
CANBERRA ACT 2601
Telephone: (06) 272 4171

For information in the Guide on other land and water research activities see also:

Murray-Darling Basin Commission
The Australian Heritage Commission
Urban Water Research Association
National Irrigation Research Fund
Department of Primary Industries and Energy
Department of the Arts, Sport, the Environment, Tourism and Territories
Natural Rainforest Conservation Program
Australian National Parks and Wildlife Service
- Research and Surveys Program
- Save the Bush Program
- Endangered Species Program
- States Co-operative Assistance Program



Here are some little delights to bring a smile to your face.

Extracts from *The newest biology* - elementary school children elaborate on the standard texts by Matt Edwards Bio Science Vol. 41 No. 3 pp 136-138.

Respiratory ailments and their prevention

* *A snore is a breath that talks.*
* *It is healthiest to inhale deeply before you expire.*
* *Being hoarse of a different colour is when the face turn red from overcoughing.*
* *Anyone that would get up and exercise early in the morning never lacks a daisy call.*

Concepts of genetics

* *Genes are things we have whether we want them or not.*
* Genes *are what make things like they are. I have decided genes are my eight favourite thing in the universe.*
* *Genetics explain why you look like your father and if you don't why you should.*
* *Gymnastics exercise your outsides while genetics exercise your insides.*
* *Spontaneous generation means a generation that would rather do without mothers and fathers.*
* *Ancestors are important. Without ancestors you might not even have a mother or father. Everyone ought to have an ancestor.*

Basic microbiology

* *Pasteurized milk comes from cows that eat in pasteurs.*
* *while man has pores, mold has spores. it is one way to tell us apart.*
* *The way to keep germs from hurting us is to use penicillin. The germs can't hurt if they are teensy enough and the penicillin scrunches their growth.*
* *Sometimes I have heard swollen rivers being talked about. Swollen rivers are caused by infectious germs in the water.*

Audition and vision

* *Inside each ear we have a hammer, an anvil, and a stirrup. So the ears have a good excuse to ache sometimes.*
* *Look in an ear. If there aren't 3 bones in there, then that is not an ear you are looking in.*
* *Light enters our eye through our coronas.*
* *Sinus is the polite word for holes in the head.*

NEW POLICY STATEMENT
No 40

ROAD MANAGEMENT

Especially for operational and field staff.

Copies are available from your Admin Assistant or from Christine Farrell

To all our Research Division Staff
We wish you a very Merry and Safe Christmas and hope that your New Year will be a good one. Hoping that 1992 will be challenging and successful to you all

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Ron Sokolowski Retires

Ron joined the Department of Fisheries and Wildlife on 15 August 1972 as the first Reserves Officer for Two Peoples Bay Nature Reserve. Prior to this, he had left the Ugandan Civil Service about 1965, migrating to Australia and taking up a sheep farm on Two Peoples Bay Road east of Albany.

Ron transferred to Karratha around 1978 to look after island nature reserves. Early in 1982 he joined the staff of the Wildlife Research Centre at Woodvale as a Technical Officer assisting myself in flora conservation research. Following the formation of CALM in 1985, Ron joined Dave Coates and was instrumental in getting the Department's isozyme laboratory up and running. In addition, Ron travelled the State establishing field herbaria in regional, district and ranger station offices. He also played a major role in organizing annual Declared Rare Flora Management Workshops in 1988 and 1989, the latter attracting about 100 participants from inside and outside the Department. In 1990, Ron was promoted to the newly created position of Research Centre Manager, Woodvale.

Despite heavy work commitments Ron completed a B.Sc. in environmental science through external studies at Murdoch University.

He did much to enliven discussions and work activity in all his postings. He has always been a strong advocate for improving working conditions of staff. His work was marked by an amazing ability to find resources for a job needing doing.

Ron always made visitors and staff feel welcome. He leaves many friends who'll miss his enthusiasm, positive outlook and guidance.

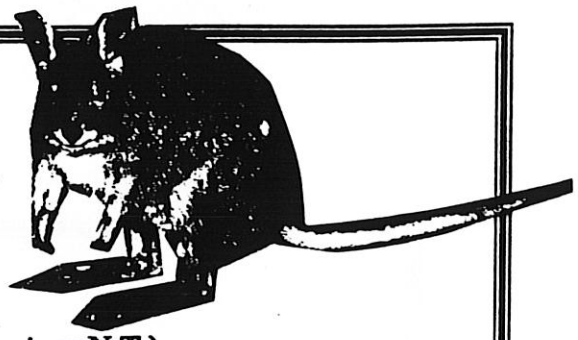
A farewell lunch at Sorrento was held for Ron on December 5 his last day with CALM. It was attended by staff from Woodvale, Dave Coates' group from the Herbarium, Colin Ostle from the Fisheries Department (who worked with Ron during his Two Peoples Bay post) and Peter Pennings of Wildlife Branch (who was DWO at Karratha during Ron's term there).

Ron and Mary leave W.A. on December 20 to build a new house and settle close to their daughter near Sydney.

On behalf of all staff who have known and worked with Ron, I wish he and Mary a happy, healthy and long retirement and wish to express my appreciation of his contributions and friendship during 19 years of service to the State.

Steve Hopper

SEMINAR



VISITING SCIENTIST

Ken Johnson

(Conservation Commission, Alice Springs N.T.)

The Mala (Rufous Hare-wallaby): a conservation program in central Australia

on
Friday 20 December 1991
commencing at 3.00pm

at CALM, Wildlife Research Centre, Ocean Reef Road Woodvale

Between 1930 and 1960 (just 30 years) the Mala of the central deserts crashed from being a widespread and easily procured species to one represented by just two colonies in the Tanami Desert of the Northern Territory. Each colony contained less than 50 animals and until 1987 they were less than 15 km apart. One went extinct in 1987.

A program by the Conservation Commission of the Northern Territory aims to re-establish the extinct colony using captive bred Mala established from founders originally collected from this colony. A second re-introduction is in progress along the Lander River floodout some 150 km distant. Both study areas are on Aboriginal freehold land and involve the participation of authoritative people.

Two staged release methods are used. One uses pen-bred stock from Alice Springs held briefly in small (50x50 yards) before release. The other uses animals bred on site in a large (1km2) paddock. Animals are cosseted with artificial food and water after release. The use of these resources and the behaviour of released animals will be discussed.

The Tanami has advantages of very low numbers of rabbits and exceedingly few foxes. Both are controlled at the release sites. To our cost (more importantly that of the Mala) we took too long to recognise the relevance of predation by Feral Cats.

Aborigines have participated in control of Feral Cats and in the management of fire. They are saddened by the demise of so many desert mammals but are somewhat fatalistic about it. The opportunity to ''bringing animals back to their country'' is important to the older generation but it is not yet clear what attitude will develop among younger people.

EXTRAORDINARY SEMINAR

GUEST SPEAKER

Dr Catherine Kemper
Curator of Mammals, South Australian Museum)

"Whale strandings in South Australia"

on

Monday 23 December 1991

commencing at 3.00pm

at the Wildlife Research Centre, Woodvale