

# CALM NEWS

Print post approved PP665002/00001

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

March-April 1993



- ◆ Profile: New Environment Minister - page 3
- ◆ Sealions to star in TV show - page 3
- ◆ New internal telephone book - page 3



- ◆ Cockatoo amnesty a success - page 4
- ◆ Malleefowl find in forest - page 5
- ◆ German scientists study our tree hollows - page 5



- ◆ Bandicoot phone-in results - page 6
- ◆ New book on care of remnant bushland - page 6
- ◆ CALM strikes oil in the Kimberley - page 8



A helicopter fitted with a 'monsoon' bucket can make a significant difference in bringing a fire under control and keeping it that way. Filling the bucket prior to take-off is Manjimup forest ranger Leon Price. Meanwhile, back at the truck is fire equipment officer Gary Kravainis of Fire Protection Branch. See 'Helicopter buckets fire at Walpole-Nornalup NP' on page 4.  
Photo by Lachlan McCaw

## Mudflats, sea-shells and new underwater trails

THE Department's activities cover a wide variety of duties over a vast area. The following stories tell of a biological survey of Kimberley mudflats, a new conservation park at Shell Beach in Shark Bay and a new underwater nature trail in the metropolitan area.

### Survey

CALM scientists have flown to the site of a large mudflat on the Kimberley coast to undertake an important biological survey.

The mudflat, between Cambridge Gulf and the Northern Territory border, is more than 10 km wide and 50 km long.

It is inhabited by wading birds, mangroves and saltwater crocodiles.

There is a sand dune system along its outer edge and, growing in the swampy area behind the dunes, is an important rainforest patch that is unlike any other found in WA.

Because of the size of the mudflat, there are few areas like it in WA and it is not represented in any other conservation reserves.

CALM scientists are examining the values of the area to see if it should be incorporated into a conservation reserve.

Botanists, a biogeographer, and an ornithologist will participate in the expedition, which follows surveys of the Buccaneer

Archipelago, north of Derby, and other eastern Kimberley rainforests.

### Shell Beach

The unique Shell Beach at Shark Bay is now a conservation park.

The conservation park, gazetted early in February, is the first such park in the Gascoyne Region.

Shell Beach is a 60-kilometre stretch of coastline, formed from billions of tiny white shells deposited seven to nine metres deep.

CALM plans to develop day-use facilities and a new carpark in the area.

Most of the visitors to Monkey Mia call in to Shell Beach.

Vehicles are often driven on to the beach, breaking and compacting the shells and forming unsightly tracks in this unique landform.

As a result, CALM will have to rehabilitate the beach to its former state.

The shell deposits on the beach formed some 4000 years ago, when large

populations of the bivalve *Fragum erugatum* flourished in the ultra-saline conditions in nearby Hamelin Pool.

Over time, the lower and older deposits became compacted together to form consolidated material known as coquina.

Several buildings in Denham and on surrounding stations are built from blocks of the compacted shells.

This activity is now strictly controlled and blocks can only be cut to repair existing shell block buildings.

### New trail

CALM has established a new underwater nature trail at Little Island, a popular diving spot in Marmion Marine Park.

The trail is suitable for snorkellers as well as divers and was sponsored by the Sorrento Quay Dive Shop.

The theme of the trail is 'adaptation' and underwater plaques have been placed around the site to help divers learn more about marine ecosystems

and marine life.

The plaques describe the various adaptations used by seagrasses, corals and shellfish to survive in the particular conditions of this area.

Australian sealions often swim and fish in waters around Little Island which they use as a resting place.

People snorkelling in the waters around the island are often joined by these inquisitive creatures.

Divers and sealions can happily coexist as long as people realise that sealions are wild animals and respect their space.

Reefs around the island are also inhabited by fish, crabs, shrimps, and octopuses which camouflage themselves in the seaweed and rocks.

Colourful corals, anemones, jellyfish, seafans and sponges can also be seen.

The waters of Little Island are normally protected from sea breezes and offer the perfect opportunity for visitors to explore from their boats.

## Censorship allegations dismissed

ALLEGATIONS of scientific censorship against the Department have been dismissed by Environment Minister Kevin Minson.

Last month the Conservation Council accused CALM senior managers of a "massive cover-up" and called for "the CALM censors to be replaced".

These claims were widely reported in the local media and even in the international journal, "New Scientist".

### Allegations rejected

Dr Jim Armstrong, Director of Science and Information, immediately rejected the allegations and demanded an apology from the Conservation Council. None has been received.

Mr Minson has since conducted an independent

inquiry - including discussions with the seven CALM scientists whose work was used as "evidence" of censorship - and dismissed the allegations.

### Scientists satisfied

He said the scientists were satisfied with the peer review process and most of them told him the Conservation Council's allegations were mischievous.

The Minister has also referred details of the allegations to Crown Law for advice.

Mr Minson announced his findings at a news conference in his office. In an accompanying news release, he urged Western Australians to retain their confidence in CALM's ability to manage the State's forests.

"I am gravely concerned that the WA

Government's reputation for scientific integrity and sound environmental management has been unduly and mischievously damaged on an international scale by these unfounded allegations," Mr Minson said in the release.

### Warning

He "...warned all groups that it was imperative that he receive credible advice from them if they were to have any input into the decision-making process.

"It was vital that advice offered was accurate if the groups wanted to be taken seriously.

"He also assured CALM scientists that they would continue to receive his support providing that at all times their research and management of WA's resources was conducted with integrity and due diligence."

## Growing involvement of private industry

SPONSORSHIP of CALM projects and programs is very much alive and well and looks set to continue thriving, according to community involvement coordinator Colin Ingram.

"In the first nine months of the current financial year sponsorships worth \$140 000 have helped to fund CALM works," Colin said.

### Sponsored projects

"Projects sponsored so far include community education, wildlife research, and recreation facility management.

"The external funding program is off to a healthy start and is already

meeting expectations with even more exciting projects to be announced shortly."

### Recent sponsorships

Midland Brick Co Pty Ltd will supply bricks and pavers to CALM at Yanchep National Park and Matilda Bay Reserve at a discounted rate.

Dulux Australia, a division of ICI Australia Operations Pty Ltd, will supply 200 litres of decorative paint for the internal and external painting of McNess House in Yanchep National Park.

Ansett Air freight and Ansett Australia: The second stage of the transport

of koalas from the South Australian National Parks and Wildlife Service is again being sponsored by Ansett Air Freight and Ansett Australia.

ICI Australia Operations Pty Ltd: A teachers' manual for the Forest Education Program was completed recently by CALM community education officer Fiona Marr. The manual will complement the in-service course for teachers running school excursions, also part of the sponsorship program.

LandCorp: Renovations to McNess House, sponsored by LandCorp, are proceeding well and are expected to be completed by Easter, 1993.





One of the most critical issues that continues to face CALM is our financial strategy.

Counting the money that we spend, watching where it goes and from where it comes, may be less interesting than growing trees, saving numbats and encouraging tourism and recreation, but we won't be able to do any of that if we don't 'count the beans.'

The track record of economic forecasters hasn't been very good over the last few years, but I don't think anyone will dispute that we are in, and will continue to face, tough times financially for some time to come. The position of the Department is no different from the State or, for that matter, the nation.

We cannot continue to borrow money from overseas to maintain our jobs and lifestyle. That strategy is not sustainable.

CALM has three options. We can throw in the towel and drastically reduce our services, or we can improve our efficiency or increase our income.

It may be that we will have to reduce our activities. But this will be difficult since the demand on our services and the land base that we manage continues to increase astronomically.

Notwithstanding the huge gains in efficiency that we've made, I am still confident that we can do more with less. We are constantly improving our access to new technologies which we would not have believed to be available just a few years ago.

I am also optimistic that we will be able to develop new work practices through enterprise bargaining, which will give us much more flexibility and consequent efficiency.

We have dramatically increased our revenues from our timber production activities, and new, externally funded projects, such as the hardwood plantation program, will return revenue to the Department and, more importantly, reduce our unit overhead costs. I am absolutely convinced that we can obtain significantly more revenue from our tourism and recreation activities by forming alliances with the private sector. Currently, we earn less than \$2 million, yet we manage the major tourism attractions of the State.

There is an old saying that 'you can't manage if you can't measure.' It's been a long, hard and painful task, but finally we have an accounting system which can be used by every unit in the Department to determine the balance sheet on that unit's operations. This means that anybody in any part of the Department can find out where their 'beans' are coming from - as well as where they're going.

Financial management may be boring but there is an incentive for us as a Department, or as individuals in it, to get it right. If we can't manage our finances prudently and innovatively, we won't survive.

Dr Syd Shea, Executive Director

# CALM to co-host international conference at Geraldton

**CALM is to co-host a six-day international conference at Geraldton in May next year on the role of networks, of both people and vegetation, in nature conservation.**

Officer-in-charge of CSIRO's Division of Wildlife and Ecology at Helena Valley Dr Denis Saunders said that effective nature conservation requires the commitment and participation of local people.

"Without their involvement and acceptance,

nature conservation on private lands is impossible and even on public lands it will be constrained by inadequate resources or support," Dr Saunders said.

"Conservation biologists and others who are aware of the need for conservation will only see effective translation of results into action if community responsibility and management actions are planned from the outset.

"Community linkages

between land-holders and other individuals, groups, conservation agencies and conservation biologists are as essential to effective nature conservation as are linkages across the landscape."

The subjects to be covered at the conference include: why we need community involvement in conservation; the role of indigenous peoples in conservation; the link between scientists and community groups involved

in conservation; conservation biology as a discipline and as a force for change; current understanding of landscape linkages in conservation; the role of landcare groups in conservation; integrating conservation with production and development; the role of mining companies in conservation.

The conference, organised jointly between the CSIRO Division of Wildlife and Ecology, CALM, the Centre for

Conservation Biology at Auckland University and the World Wide Fund for Nature (WWF Australia), will be held in Geraldton from Sunday May 15 to Friday May 20 1994.

Those interested in attending or obtaining further details should contact: Dr Denis Saunders, CSIRO Division of Wildlife and Ecology, LMB No 4, Post Office, Midland, WA 6056. Telephone (09) 252 0111 Fax (09) 252 0134.

## What's new on the shelves

**THE following publications have been produced recently and should be available from Stores Branch, Front Counter Como or, when out of print, from the CALM Library.**

### Leaflets

- ◆ Sea lions - reprint
- ◆ Go Bush; Hills Forest program
- ◆ Protecting Wildlife in WA
- ◆ Francois Peron National Park
- ◆ Land Managed by CALM - reprint
- ◆ Trees for Rural Areas - reprint
- ◆ Boating in Shark Bay
- ◆ Yanchep National Park Guide
- ◆ Signs of Ningaloo Marine Parks
- ◆ Nambung National Park - Reprint

- ◆ Quality Improvement News
- ◆ Dryandra Woodland
- ◆ Enterprise Bargaining No 1
- ◆ Jarrahdale Parks and Forests
- ◆ Stirling Range and Porongurups - Reprint
- ◆ Resource Note 21 Eucalypts of Perth - Reprint
- ◆ CALM Briefing Paper 1-93 Access to Basic Raw Materials - Local Govt Authorities
- ◆ Enterprise Bargaining No 2
- ◆ Landscape Fires 1993
- ◆ Dryandra Woodland Ecology Course
- ◆ Treecrops for Farms - Reprint
- ◆ Bushwalks Near Manjimup
- ◆ Protecting Whale Sharks
- ◆ Yanchep National Park Autumn Activities Guide
- ◆ Little Island Underwater Nature Trail

- ◆ NPNCA Annual Report 1992
- ◆ Aboriginal Activities and Nature Conservation in the south-west of Western Australia
- ◆ Improve your Bank Balance and your Farm with South Coast Share Farms
- ◆ Commercial Tree-growers Kit
- ◆ Resources Directory - CALM and Aboriginal Heritage
- ◆ Wildlife Management Program No 9 - Declared Rare Flora and Other Plants of the Metro Area
- ◆ Wildlife Management Program No 10 - Merredin Area

### Book

- ◆ Flora of the Kimberley Region - cost \$89.95

### Reports

- ◆ State of the Environment 1992

### Management Plans

- ◆ Matilda Bay Reserve - Submissions
- ◆ Matilda Bay Reserve

### Booklets

- ◆ CALM Annual Report 1992

## Conserving biodiversity

CALM has received notice of a conference titled **Conserving Biodiversity - Threats and Solutions to be held in June at the University of Sydney.**

Organised by the New South Wales National Parks and Wildlife Service, the conference is part of its 25th anniversary celebrations and will cover topics such as:

Why conserve biodiversity? habitat loss and restoration; feral plants and animals; degradation and pollution of water resources; changes to fire and climate; commercial use of native biota, and can governments solve the problems?

The conference is open to anyone involved in land

management (private or public); species conservation; conservation groups; ecological research or survey; environmental education, legislation, planning or consultancies, or in impact assessment.

The dates of the conference are June 29 to July 2, 1993.

A limited number of brochures is available from the Editor, CALM NEWS.

Those interested in attending or obtaining further details should contact Lynda Wild, Conference Coordinator, National Parks and Wildlife Service, PO Box 1967, Hurstville, NSW 2220 or telephone (02) 585 6417.

### TO THE EDITOR...LETTERS TO THE

THE following extracts are from a letter from top US ecologist Professor Jerry Franklin, whose visit to WA was reported on page 3 of February CALM NEWS.

Dear Dr Shea

I have just returned from a month-long visit to Australia and New Zealand which included a visit to Western Australia. I was very ably hosted during this visit by members of your staff, most notably Roger Underwood and Jack Bradshaw.

It was, from my point-of-view, an extremely valuable opportunity to learn a great deal about issues and emerging practices in the management of south-western Australia's forest estate.

It subsequently broadened my views and I learned, once again, how differences in the ecology of trees and ecosystems and in societal objectives require different specific practices even though the general challenges to foresters are similar in both of our countries.

I was extraordinarily impressed with the innovative practices that are being developed by CALM. Your Department is responding to new challenges with very reasoned and ecologically sound approaches that appear to effectively address most recognized management issues.

For example, the concept of an expanded riparian reserve system in

the karri forest coupled with small reserved upland areas at 400-metre intervals seems like a good way of accommodating old-growth values while still providing for successful management of harvested coupes.

Your Department's efforts are assisted by the quality of your personnel.

Jack Bradshaw is one of the best silviculturalists I have ever encountered and obviously deserves much credit for the scientific credibility of the proposals for modified silviculture.

I was also very impressed with your magazine, *LANDSCOPE* as a model of communicating scientific information to the general public. It was pleasing to see it on sale at public newsstands. I have entered a personal subscription and will share it with the educational staff of the Olympic Natural Resource Centre.

I offer my sincere thanks for the hospitality extended by your Department. It made for a very productive visit!

Sincerely yours,  
Jerry F Franklin  
Director and Professor  
Ecosystems Analysis  
University of Washington  
Seattle USA.

### STAFF NEWS

#### Effort rewarded

Steve Strachan, Ranger-in-Charge, Cape Range National Park, has been awarded the Certificate in National Park Management - a creditable achievement as anyone knows who has tried studying by correspondence while working full time and when it is some years since leaving school. The TAFE Certificate, introduced in 1988, was designed specifically to help national park rangers extend their skills.

#### Promotions

Gavin Butcher, to Program Leader, Forest Resources, Kelmscott; John Vodopier, Research Officer, Fire Protection, Como.

#### Transfers:

Jasmine Moylett, Officer, to Walpole; Sue Rolfe, Officer, Bunbury Regional Office; Ann Holt, Officer, Research, Como; Allana Stingemore, Administrative Assistant, Kununurra Regional Office; Val Storey, Administrative Assistant, Planning Branch, Mount Pleasant; Grant Pronk, Forest Ranger, Kalgoorlie Regional Office; Paul Brown, Planning Officer, Environmental Protection Authority (secondment).

### CALM NEWS - MARCH-APRIL 1993

Managing Editor: Ron Kawallak  
Editor: Verna Costello

Contributing Editors: David Gough, Grahame Rowland, Carolyn Thomson  
Design and Layout: Sandra Mitchell

Published by CALM Corporate Relations Division, Cygnet Hall,  
(cnr) Mounts Bay Road & Hackett Drive, CRAWLEY, Western Australia 6009  
Telephone: (09) 389 8644 Facsimile: (09) 389 8296

Deadline for CALM NEWS is the 10th of the preceding month.

PRINTED ON 100% RECYCLED PAPER

## CALM Classified

THIS column is divided into sections dealing with 'for hire', 'for sale', 'surplus equipment', 'swap', or 'wanted'. If you have any equipment or requirement that you wish to advertise through this service, please send or fax typewritten details to:

The Editor,  
CALM NEWS,  
Corporate Relations Division

#### Wanted

Office safe. Small to medium size. Contact Melissa Ford Katanning (098) 211 296.

Pair of worn out walking boots, any small size preferred. Phone Fiona Marr (09) 364 0716.

Chairs in very good condition. Preferably ergonomic or similar. Contact Lynne Oakes, Dwellingup 538 1078.

Electric typewriter, preferably Olivetti ET 111 or similar, in good condition. Contact Taryn, Store, CALM Dwellingup. Ph: (09) 538 1078.

#### For Sale

Photocopier/Printer - Xerox 4045 - basic functions. Working condition. All reasonable offers considered. Contact Joanne Currier, Como (09) 334 0257.

Cafe Bar - Series 6A. Very good condition. New hot water element. Coin operated. Facilities for tea, coffee, chocolate, milk, sugar, soup. Make an offer! Contact Lynne Oakes, Dwellingup 538 1078.

#### For Hire

Lewis saw with experienced operators. \$30.00/hr plus wages and plant. Contact Peter Moore, Collie (097) 341 988.





Talk to the Animals' camera and sound crew home in on reporter Kelly Pomeroy while Greg Pobar looks on. Photo courtesy of Channel 7

## Sealions to star on Talk to the Animals

A RECENT visit to Seal Island in the Shoalwater Islands Marine Park by reporters and crew of Channel 7's *Talk to the Animals* program is likely to result in our local Australian sealions, their habits and management being telecast around Australia.

Swan Region Marine Operations staff accompanied Dr Harry Cooper and reporter Kelly Pomeroy through the area earlier this year. Marine operations manager Greg Pobar

said that the highlight of the day was having the opportunity to converse with the program's anchorman Harry Cooper.

"Harry's concepts of public education and interpretation, not only in relation to domestic animals, but also to wildlife were unique and are obviously very successful," said Greg.

"We also shared experiences and ideas in finding ways to develop a general public understanding of the lives and

nature of invertebrate marine fauna such as starfish, jellyfish, octopus and sea slugs.

"We both agreed, however, that such a concept would require its own year-long series. Nonetheless the 'touch pool', often conducted by Swan Region Marine staff will be filmed at Rottnest later in the year."

The crew also took time to film local feral pigeon problems that are also representative of an increasing concern all around Australia.

## New computerised telephone book

If you needed to talk to Kerry Olsson where would you ring? Which R Harris is at Kirup - the ranger or the mechanic? Would you call T L Florisson Dear Sir or Dear Madam? To answer these questions and more, a new computerised telephone directory for CALM is being compiled.

Recognised as being due for overhaul, the directory will be available to all cost centres on request.

A member of the project team that decided on the format for the directory is administrative officer Rod Mell from Engineering Branch.

"Previously the Como telephonist was responsible for maintaining the directory, but it was hard keeping track of changes about staff," Rod said.

"The new system will be upgraded by the various cost centres and so hopefully will be right up to date.

"This internal directory takes advantage of the advanced features of the Oracle relational database system, making it 'on-line'

by Grahame Rowland

- to use the jargon. While the information will be available straight from Oracle it will probably be easier simply to print a hard copy every so often and use that."

The mention of the word Oracle may bring a smile to the faces of many familiar with budgeting, but Rod is quick to point out that as a database it works very well.

"Oracle is a whole-of-CALM networked database system - it is the only medium by which all cost centres can communicate on one database. Therefore, it made sense to use it for the directory.

"The project team consisting of Peter Mapson and Therese Hughes decided initially the directory must be simple to use and contain contemporary information. We could have expanded it in many ways but that could have been at the expense of simplicity."

The old A5 binder has been replaced with A4

format. This standardising will make it easier for cost centres to make copies for distribution to staff.

"The information will be listed in two ways. The first will be by an alphabetical listing of surnames and the second will show the organisational unit e.g. district or branch.

"The listings will show given and family names, telephone number, title, work unit and location.

"Organisational units will also appear in alphabetical order and include fax numbers.

"Cost centres may even put in their own speed dialling systems if they wish."

A user-manual is currently being prepared to help staff access and understand the system. Cost centres will be notified when the system is up and running.

P.S: Kerry Olsson is in Land Administration Branch at Como; it is Rebecca Harris - the mechanic - at Kirup (Roy Harris is at Kalbarri); and it is Tammie Florisson so it would be Dear Madam.

# Profile of the Minister for the Environment - Kevin Minson

**MINISTER for the Environment Kevin Minson, is no stranger to hard work.**

Born in May 1947 at Port Hedland, educated at Mingenew Primary school until year six, then at Hale School from 1959 to 1964 and University of WA from 1972 to 1977, he was raised on the well-known properties of Urella and Nangetty in the Mingenew area.

On leaving Hale School, Mr Minson worked at Nangetty and then for a brief period at Meebeerie Station north of Mullewa.

In 1967 the family was granted a virgin, conditional-purchase block of about 2 000 hectares some 40 kilometres east-northeast of Dongara which Mr Minson set about clearing.

### Dentistry studies

In 1972, the outlook for agriculture was so dismal Mr Minson felt it advisable to retrain so he enrolled at the University of WA to study dentistry, graduating in 1977. While

studying he supported himself by working in a bakery and as a resident master at Hale School and Scotch College.

### Holiday work

Vacations were spent helping with seeding and harvesting on the farm which was then run by his father.

After working at the Perth Dental Hospital for a while, Mr Minson started a private practice in Rockingham where he stayed until the end of 1980.

At this time his interest in agriculture, coupled with his father's poor health, saw him returning to run the farm once again, cropping some 800 hectares a year, shearing about 4 000 sheep and running 80 breeding cows.

When time permitted, Mr Minson practised on a part-time basis in Geraldton and by helping out when required with the School Dental Service.

Mr Minson has been involved, and held office, in many organisations including the Mingenew

Rural Youth and Jaycees, Walkaway Parents and Citizens and School Council and has been a churchwarden in Dongara for some years.

He has been married for 18 years and has four children - two daughters aged 14 and 13 and twin boys aged eight.

### Party membership

Mr Minson was a committee member of the Subiaco Branch of the Liberal Party in the early 1970s and more recently a member of the Dongara Branch.

Shortly after his election to the Legislative Assembly in the Western Australian State Parliament in February 1989, he was appointed to the Cabinet as Shadow Minister for Conservation and Land Management, Waterways and the Mid-West.

On June 11 1990, he was elected Deputy Leader of the Opposition.

He was appointed Shadow Minister for Economic Development

and Trade; Health and the Mid-West.

### Further responsibilities

In August 1990 he was given a further Shadow portfolio responsibility - Defence Contracts Liaison.

In August 1991 Kevin's Shadow portfolio responsibilities became Health, Trade Development, Mid-West, Regional Development and Rural Affairs and Leader of the House in the Legislative Assembly.

Due to a leadership spill on May 12 1992, he lost the position of Deputy Leader of the Opposition and in the subsequent reshuffle of portfolios he was given the Shadow responsibilities of Health and Disability Services.

Re-elected Member for Greenough on February 6, 1993, he was appointed Minister for Environment, Aboriginal Affairs, Disability Services and Minister Assisting the Minister for Fisheries on February 16, 1993.



Environment Minister Kevin Minson reflects on his new portfolio. Photo courtesy of The West Australian



# Worthwhile results from amnesty

Western Australia's first cockatoo amnesty has produced a good response with 100 phone calls from the public and several cockatoos handed in to CALM.

by Kevin Morrison

The six-week amnesty had been called so that anyone with illegally obtained parrots or cockatoos could declare them without fear of prosecution.

It was also aimed at raising public awareness of the fact that it is illegal to take native parrots and cockatoos from the wild and that special licensing

requirements are required for those bred in captivity.

As a result of the amnesty, 11 birds, including white tailed black cockatoos, a Major Mitchell cockatoo and galahs, have been declared, handed in to CALM or released.

While the amnesty allowed people to declare birds that were being kept illegally as pets it also gave people the opportunity to provide CALM with infor-

mation on 'professional' nest-robbing and bird-smuggling activities.

Almost a third of the calls received related to these types of activities, and investigations by CALM have resulted in one person being apprehended while attempting to smuggle two cockatiels out of the country.

In other instances trapped birds were discovered, released and the trapping equipment seized.

A number of other leads is still being investigated.

# Boot cleaning station helps fight dieback

East Mount Barren, which is the site of several unique, threatened plants, lies on the eastern side of Fitzgerald River National Park.

The mountain also offers spectacular views over the surrounding park and hinterland.

A footpath has long been a feature for visitors to the eastern end of the Fitzgerald River National Park.

Because East Mount Barren suffers the grave indignity of having the *Phytophthora megasperma* variety of dieback disease present in several sections around its base, the path was closed in 1990

by Nathan McQuoid

as a precaution against the disease being carried up the mountain via walkers' footwear.

Obviously, the proximity of this infection and the susceptibility and scarcity of the mountain flora required careful consideration.

After lengthy discussions among district and regional staff it was decided that a raised boardwalk be built that would allow walkers access across the base of the mountain without having to walk on the soil.

The boardwalk also incorporated a boot-cleaning station to help eliminate the risk of moving infected soil onto the mountain.

Senior ranger Martin Lloyd and rangers Lindsay Brown, Mark Roddy and I built the boardwalk in sections on a jig set up at the East Mount Barren ranger station.

Fifty-nine sections were laid down to cover the 180 metres from car park to mountain.

East Mount Barren ranger Mark Roddy reports that the attitude of visitors to the dieback problem is encouragingly positive with everybody using the boot-cleaning station.



Walkers cleaning thongs at dieback cleaning station. Photo by Martin Lloyd

# Region's rare finds

Rare flora seems to be turning up everywhere in the Swan Region, with staff finding a new population every week on average.

During 1992, a total of 54 previously unrecorded populations of declared rare flora were located by staff. These mostly occurred on the Region's State forest and nature reserves.

Regional manager Alan Walker said the Region's conservation officer Les Robson deserved much of the credit for the excellent result.

"While many district staff made significant

Mike O'Donoghue

contributions, Les was the one who discovered a great number of the new populations," Alan said.

A significant find was the Bindoon starbush (*Asterolasia nivea*), known only from a single roadside population until Les spotted more of the species on a nature reserve in 1990.

The most recent find is the third and largest known population.

Another important discovery was a large population of the scarlet

lechenaultia (*Lechenaultia laricina*).

This new species was known from only five locations and appeared to be in a state of decline.

The new discovery of this species is the second largest known population, consisting of some 210 plants and was found in an area of State forest proposed as a conservation park.

"These discoveries have improved CALM's knowledge of rare and endangered plants in the Swan Region and enhance our ability to protect and manage rare species," Alan said.



Adults standing at rear, left to right: senior technical officers Graham Liddelow and John Neal, senior research scientist Lachlan McCaw, user support officer Pam Burgoyne, senior principal research scientist Per Christensen and technical officer Steve Dick. Seated at centre front is John Neal's wife Lyn. Children left to right are Shell, Matthew and Shane Liddelow and Tenzin Dick at extreme right. Delayed action photo by Pam Burgoyne.

# Polishing up the Perup Field Station

by Pam Burgoyne

Perup Field Station was a hive of activity one weekend in February, when a keen group of volunteers from Manjimup Science and Information Centre held a busy bee to clean, repair and generally tidy up the buildings and grounds.

The group included Per Christensen, Lachlan McCaw, Graham (Tub) Liddelow, Bob Smith, John and Lyn Neal, Steve Dick and Pam Burgoyne.

Children belonging to Tub and Steve also lent a hand with clean-up operations.

The field station is located in the proposed Perup Nature Reserve about 40 kilometres north

east of Manjimup and has been used over many years as a base for forest ecology research and education programs.

Weekend field ecology courses held each spring and autumn provide an opportunity for members of the public to learn something of the ecology of the eastern jarrah and wandoo forests around Perup.

Friday morning's activities included roof repairs to the house (Bob and Lachie), carpet laying (Per and John) and removal of antiquated displays and posters and maps from the

projects room by Lyn and Pam along with amazing quantities of desiccated flies and moths!

Later, Steve's carpentry skills were put to good use restoring doors to working order, while Lyn, Pam and John installed new flywire to the doors of the sleeping units. Sections of an old fence were also dismantled and removed.

By knock-off time on Friday, it was clear that the major job of possum proofing the main house would have to be left until Saturday. Barbecues were lit and a pleasant evening was spent with an eventful spotlighting session led by Tub Liddelow.

Tub also set traps so

that the house possums would be captured in good time for the next day's events.

Saturday morning saw three possums captured right around the house area and care was taken to keep them as comfortable as possible while the possum-proof wire was installed by Steve and Tub.

All in all it seemed a very successful busy bee as well as a most pleasant social outing for adults and children who had worked together.

Maintaining and, where possible, improving the facilities at Perup Field Station will help to reinforce its role as a research and education centre.

# Helicopter buckets fire at Walpole-Nornalup NP

by Verna Costello

CALM staff at Walpole used a Bell Jetranger helicopter to help control the February fire in the Nuyts wilderness area of the Walpole-Nornalup National Park.

With strong winds blowing, the fire, which eventually burnt over 250 hectares of dense coastal scrub and forested country, had the distinct possibility of burning into many thousands of hectares of this unique area.

Because the fire was within the wilderness area and because of the fragility of the soils it was decided to use only hand tools and hoses instead of heavy machinery to fight the fire.

Crews from the Southern Forest Region worked all night to construct a fire break, but the inaccessibility of the fire and the grave danger of it escaping into the very heavy vegetation, placed fire fighters at risk.

It was decided,

therefore, that on the following day a helicopter fitted with a large water bucket be called in.

The helicopter, crewed by CALM foresters Leon Price and Mike Cantello, was also used to ferry CALM personnel and equipment to and from the fire (which was otherwise accessible only by boat across the Nornalup Inlet) and to carry out water drops to help control the fire and mop up hot spots.

To do this CALM's 500-litre capacity 'monsoon' water bucket with pneumatically operated controls was suspended below the helicopter from which several thousand litres of water were dropped into the exact locations as required.

Although the initial drops proved ineffectual

because of poor techniques, later trials indicated that the helicopter operation had great potential for suppressing small outbreaks and for protecting crews and threatened assets.

While in the area, further trials were done to test water-drop accuracy and effectiveness in heavy forest types.

Senior fire control forester John Evans said that drops were conducted onto specific forest types with dense tree canopies to see how much penetrated to the forest floor.

"The results showed that the upper layer of litter on the ground was saturated," John said.

"Another drop onto the crown of a large dead karri stag was also accurate and would be especially effective where burning limbs couldn't be reached by conventional means such as hoses.

There's significant potential in using the

helicopter to help with wildfire suppression operations, but this would have to be cost effective.

"Ferrying crews safely into and out of difficult to reach areas to deal with spot fires is an important consideration, and injuries are sustained by crew members they can be safely and quickly moved by helicopter to a medical aid post.

## Assets protected

"The use of a helicopter to protect valuable and extensive regenerated or plantation areas from fire could well and truly be justified in many situations.

"I understand many of these operations are routine in the eastern states and overseas."

Further trials are planned for the near future.

See picture page 1



# German scientists study big trees

DATA gathered recently from the majestic forests of the Walpole-Nornalup National Park by two German scientists may soon contribute to greater efficiency in European industry.

The scientists, Dr Claus Mattheck and his assistant Dr Klaus Bethge, hope the tingle and karri forests will provide further information about the mechanical attributes of hollow trees.

The principles derived from the scientists' previous studies of tree biomechanics have been used in industrial design to improve engineering structures including machinery parts and vehicle components.

The scientists are visiting Western Australia from Karlsruhe, where Dr Mattheck is head of the Biomechanics Department

by Lachlan McCaw

at the Institute for Materials Research.

They spent several days in the Walpole District accompanied by Grant Wardell-Johnson and myself from CALM's Manjimup Research Centre.

Dr Mattheck has made a comprehensive study of the biomechanics of trees and is currently investigating the stability of hollow trees.

Using data collected from a wide variety of species he has developed a model to predict the maximum extent of hollow formation which may occur before a tree becomes mechanically unstable.

Until this visit to WA, most of the data in the model was for western

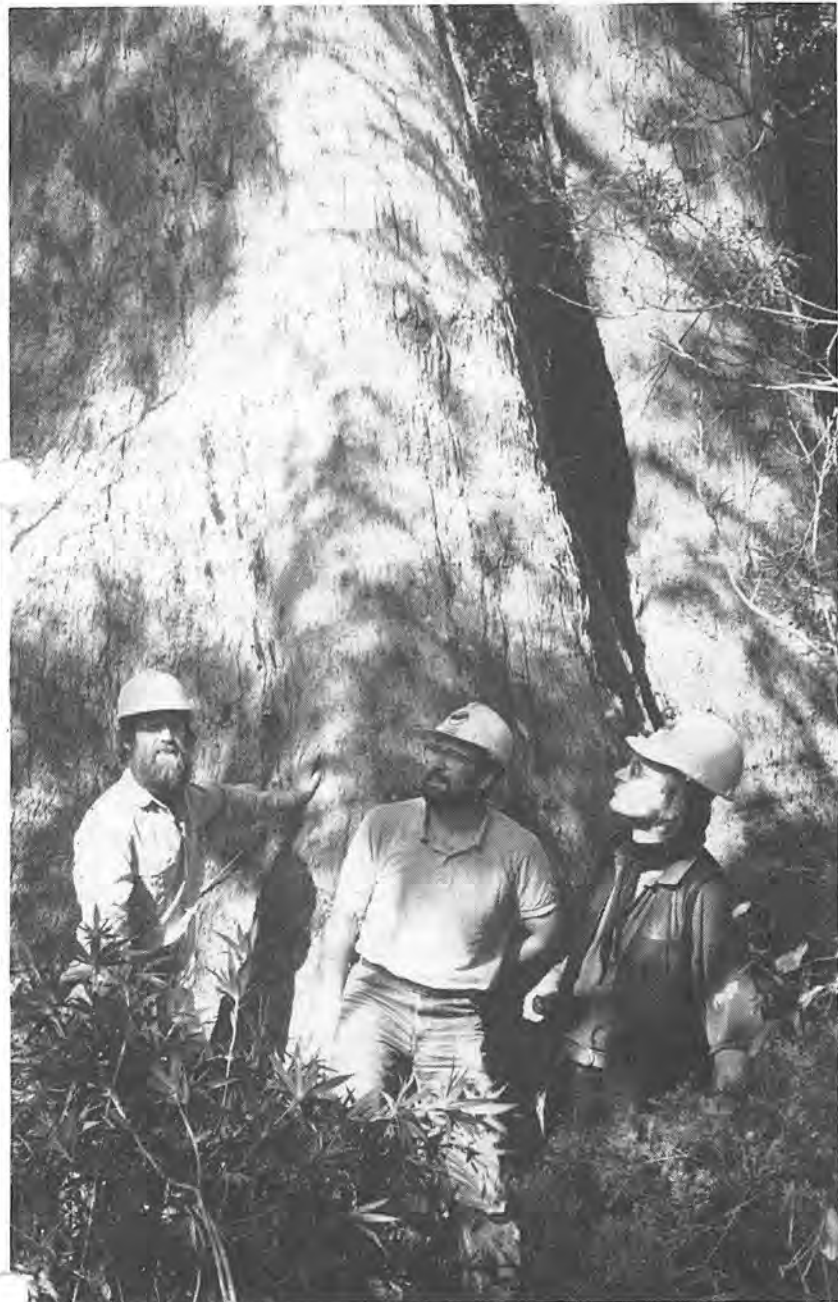
European species, and there was little data for hollow trees more than one metre in diameter.

While at Walpole the scientists were able to measure many large red tingle, yellow tingle and karri trees.

The visitors were greatly impressed by the enormous size of some of the veteran tingle trees. Being the largest trees they had seen the measurements gained from them allowed the scientists to extend the parameters of their model.

Dr Mattheck has published several books about the mechanics of tree growth and defect, including an illustrated field guide for foresters, biologists and naturalists which is available in English.

A copy of the field guide is available from the Manjimup Research Centre.



Left to right, senior research scientist Grant Wardell-Johnson explains the features of a large red tingle tree to visiting German scientists Dr Klaus Bethge and Dr Claus Mattheck. Photo by Lachlan McCaw

## Malleefowl find in forest

Malleefowl have been discovered in south-west forests for the first time in more than 40 years.

Several birds were seen in forest between the Deep and Weld Rivers north of Walpole by roadbuilders contracted by CALM to extend and upgrade tracks used for fire control and timber harvesting. The roadbuilders reported the sighting of a bird that appeared every day for two

weeks from young karri regeneration as soon as a pump was started to fuel their bulldozer.

It is thought that the birds may have been attracted to the noise of the generator and thought it was another male bird calling so put on a territorial display. Regenerated karri forest is ideal foraging habitat for malleefowl, because of the presence of an acacia species used by the

birds for food. The male malleefowl builds a mound from rotting vegetation and soil. Heat from the composting vegetation plus careful mound management by the male ensures the eggs laid there are incubated at the correct temperature.

A major factor in malleefowl decline in the forests is believed to have been predation of its young by foxes.



CALM Executive Director Dr Syd Shea prepares to name *Pseudorca II* while wildlife officers look on. They are: left to right, Dave Mell, Peter Pennings, Brad Daw, Doug Coughran, Daniel Hunter, Bouyden Yarran, Warwick Roe, Kevin Morrison, Peter Lambert, Don Noble and Lyle Gilbert. Photo by Carolyn Thomson

## New marine wildlife boat

New boat specifications don't usually include room on board for medium-sized whales.

However, the ability to carry whales and dolphins, as well as seals, was crucial in a new boat for CALM.

The result is *Pseudorca II*, a twin-hulled vessel just under eight metres long.

CALM's chief wildlife officer Dave Mell said the boat was a significant boost to CALM's marine wildlife work.

"We now have a boat custom-built for the work we do, whether it's attending to stranded seals and whales or liaising with whale shark tour operators," Dave said.

"It can carry up to ten people, as well as marine mammal passengers, and the twin hull makes it particularly stable.

"It will replace the smaller *Pseudorca*, which has been traded in to help meet the cost of the new boat.

"We will continue to operate around the coast,

from Exmouth to Esperance. This work includes management of whale watching, island plants and animals, and monitoring fur seals and sealions."

*Pseudorca II* was officially commissioned on March 10 by Executive Director Dr Syd Shea, on the Swan River at Crawley.

## Aboriginal employment project gets a boost

IN the first of a series of projects to help people of Aboriginal descent promote their skills in nature conservation, CALM will employ young Aborigines to clean up Gngangara pine plantation.

### Cooperation

The cooperative project between CALM and the Northside Aboriginal Corporation (NAC) has been made possible by a State government grant of \$38 374.

The project is in line with CALM's Aboriginal Employment and Training Plan, which commits the Department to seek

by Mary Colreavy

opportunities to employ Aboriginal people.

The NAC first approached CALM in November 1991 to help provide employment skills for young people through formal learning experiences in natural resource management.

### Balga-based

NAC is based in Balga, an area with high Aboriginal youth unemployment.

The Gngangara pine plantation is important for recreation, timber production and protection

of soil and water. For a number of years the plantation has been abused by people dumping rubbish, abandoning vehicles and sometimes setting them alight.

### Wildfires

This has led to the outbreak of wildfires which damaged the forest and put lives and property at risk.

If the area is not cleaned up there could be a risk of more fires.

The removal of rubbish will have a direct and positive effect on Aboriginal youth employment prospects in Balga, providing employment for six people for seven weeks.

The project will also make the plantation much more attractive to visitors.

In total, CALM will spend \$120 000 contracting the services of Aboriginal people in conservation and land management projects.

Expressions of interest have also been called for from Aboriginal communities interested in sharing old skills that would benefit nature conservation.

### Use of fire

Projects considered for funding could relate to Aboriginal use of fire, wildlife surveys and management, bush foods and information seminars.



# Family fun days

by Marie McDonald

SUMMER holidays, sunny weather and fun activities were a perfect combination for the January 1993 Family Fun Days in which CALM had been asked to become involved by the Department of Community Development's Office of the Family.

Designed to provide activities for the whole family to enjoy, CALM contributed to the four-day program with activities in four different habitats.

These ranged from a wetland expedition at Forrestdale Lake, to a fun day in The Hills Forest, a Shoalwater Islands adventure and a walk in the woodlands at Yanchee.

The Swan Region phones ran hot from the

day the Family Fun Days poster appeared in *The West Australian*. CALM had more than 100 inquiries about the 'Shoalwater Islands Adventure', with the 40 places being filled in about two hours.

Sunday January 24 was the day for the Adventure. A ferry tour of Shoalwater Islands Marine Park, led by ranger Terry Goodlich, started the day.

After landing on Penguin Island many of the families were soon snorkelling after being taught the basic techniques by CALM volunteer Ron Phonemyint and his diving companions.

Crystal blue water and perfect weather provided an idyllic setting.

On the beach, volunteers Lynda and George Arnold set up a 'touch pool' - a small portable pool filled with brightly coloured starfish and sea urchins - to allow everyone to see animals normally only visible to divers.

The appeal of this idea was demonstrated when curious passers-by stopped to join in. The day of fun finished with a tour of the island under the expert guidance of the Shoalwater Islands volunteers.

Many thanks must go to CALM volunteers for their time and efforts in helping to make the Shoalwater Islands Adventure a great success.



## Volunteer guides

CALM volunteers Brenda Trigwell (pictured) and husband Richard recently guided members of the WA Naturalists' Club around the Haddleton and Trigwell Nature Reserves between Darkan and Boyup Brook.

During the weekend trip local orchid expert Eric Chapman pointed out more than 30 different species, including a red spider orchid recently named *Caladenia chapmanii* in his honour.

A walk through Dingo Swamp on Haddleton reserve was rewarded with the sighting of numerous

small ephemeral plants such as pink fairy orchids (*Polypompholyx*) and orchids.

They learnt about the widespread plantations of Tasmanian blue gum, while CALM Manjimup's Peter Beatty explained the commercial tree-planting schemes and the role of trees in water table management.

Despite some inclement weather, club members had a great weekend and appreciated the chance to learn more from CALM staff and volunteers in the field.

Story and photo by Penny Hussey.



Mystery footprint beside a 16 cm long scale rule. Photo by Andrew Chapman

## Mysterious tracks in desert

A HAIRY-NOSED wombat is believed to have been responsible for unusual animal tracks at Plumridge Lakes Nature Reserve, 400 kilometres north-east of Kalgoorlie.

Eyre Bird Observatory acting warden Tim Hunt discovered the tracks and showed them to CALM's Goldfields Region ecologist Andrew Chapman and operations officer Geoff Young.

The tracks crossed a small lake bed adjoining Gwynne Creek which flows into the Plumridge Lakes.

They were well preserved in the lake mud and were notable for their large size, the unusual disposition of the pads and the repeated obstruction of the fore pad by the hind pad.

The question was "What large animal had wandered casually across the lake, and so recently?"

It was definitely a large mammal, but neither a kangaroo nor a dingo. Was it a wombat?

While hairy-nosed wombats are known from the eastern Nullarbor Plain in Western Australia as well as near Haig and Balladonia, there have been no records from as far north and west as Plumridge Lakes.

So future visitors should not be accused of hallucinating should they report a large mammal 'built like a tank' at Plumridge Lakes! Widely acknowledged expert in Nullarbor natural history and Kalgoorlie resident, John Carlisle, was shown photographs of the tracks and confirmed that they were those of a hairy-nosed wombat.

This is the first time the hairy-nosed wombat has been recorded from a nature reserve in Western Australia.



The 'touch pool.' Photo by Marie McDonald

## Costly flash floods

THE fierce storms and flash floods that ripped through the Kimberley in late February-early March, caused damage to facilities estimated at more than \$40 000 in three national parks.

Geikie Gorge National Park sustained the most costly damage, affecting dock and boat launching facilities, ablution blocks,

fencing, gates, bollards and signs. Floodwaters, mud and sand also covered large stretches of roads and picnic areas making access either impossible or extremely difficult.

Purnululu National Park was severely damaged making repairs to roads, water supplies and camping facilities a matter of utmost urgency to

enable the opening of the park on April 1.

Bollards were swept away in the Lily Creek carpark at Mirima National Park.

With the tourist season opening in May, completion of repair work in all three national parks is being treated as a high priority by CALM staff in the Kimberley Region.

## Papers now available

Copies of papers from the seminar 'Dieback - What is the Future?' held late last year are now available at \$15 a copy from: Mr M Freeman, Department of Minerals and Energy, 100 Plain Street, East Perth, 6004.

The seminar was conducted by The Northern Sandplains Dieback Working Party, which represents the interests of CALM, Main Roads, mining companies, Department of Minerals and Energy and other land managers active in the northern sandplains.

The working party's chief objective is to increase community awareness and share disease management experiences.

by Roger Armstrong

The seminar attracted speakers from a diverse range of backgrounds who found themselves faced with the problem of managing dieback disease as part of their operations.

The audience was highly appreciative of the information presented and of ideas generated during 'experience-swapping' sessions.

The papers are a valuable addition to any manager's library and are excellent value for money.

Cheques should be made payable to Northern Sandplains Dieback Working Party.

## CALM book meets urgent need

CALM's most recent publication, 'Managing Your Bushland', offers advice on regenerating remnant bush, controlling problem plants and animals, appropriate use of fire and managing wildlife habitats.

The book was produced in response to a need expressed by many farmers and other landowners for a comprehensive guide to dealing with soil erosion and salinity while protecting the bush that supports many of Western Australia's unique plants and animals.

It was released to coincide with National Landcare Month and was written by CALM's Penny Hussey and Ken Wallace, in collaboration with the Department of Agriculture and the CSIRO's Division



Photo by David Gough

of Wildlife and Ecology.

'Managing Your Bushland' was made possible with the help and cooperation of a wide range of people, from farmers to scientists and was partly financed by the Commonwealth

Government and the Australian National Parks and Wildlife Service through the Save the Bush program.

The book is available at \$19.95 a copy from selected bookshops and CALM offices.

## Phone-in a success

by Caris Bailey

MORE than 350 people - some from as far away as Esperance - rang CALM's weekend bandicoot phone-in earlier this month.

The phone-in was organised by senior research scientist Tony Friend, to gather information to plot a map of the endangered bandicoot's remaining distribution in the Perth metropolitan area.

CALM also heard from several country callers who rang to report bandicoot sightings.

"Most of the calls came from The Hills, Perth's northern suburbs, and southern suburbs down to as far as Mandurah," Tony said.

Southern brown bandicoots, or quendas, were once widespread across the south-west of the State, but are now restricted to the forest and the coastal strip from Yanchee to Cape Le Grand, near Esperance.

Reported bandicoot sightings fell into three categories: people with bandicoots living on their properties; people who

regularly see the animals running across the road, or dead on the road; and those who occasionally see bandicoots on the roadway.

"Many of the callers who had bandicoots living on their blocks said the animals were regular visitors, especially at barbecues when they came looking for handouts.

"Some bandicoots even ventured indoors looking for food.

"Many callers were very protective of 'their' bandicoots and expressed concern about the impact of land clearing, neighbours' cats and dogs and bushfires.

"A few people confessed their cats had killed baby bandicoots - one couple said they gave their two cats away after such an incident."

The phone-in reports will now be combined with information already gathered by CALM to produce a bandicoot distribution map.

## A bunny funny

COUNTER staff are CALM's front line between the department and the public.

Their job involves trying to answer a wide range of questions from all sorts of people.

Recently June Ellis at Como's 'Front Counter' answered a telephone en-

quiry from a young child wanting information for a school project.

"I asked him what the project was about and he replied that it was on endangered species," June said.

"When I asked if he had chosen an animal he said: 'What about rabbits?'"





Left to right Vernon Ford, Colin Boundary, CALM Mundaring senior reserves officer John Carter, Frank Woods and Wayne Narkle. Photo by Trevor Bourne

## Joint effort protects reserve's rare flora

A neglected gravel reserve east of York is to benefit from a cooperative project aimed at enhancing its conservation values.

The joint project between CALM, the Wheatbelt Aboriginal Corporation and the Shire of York is to protect the reserve which contains an unnamed species of *Thomasia* which is threatened with extinction.

The recently completed work was funded by CALM and the Australian National Parks and Wildlife Service under the Contract Employment Program for Aborigines in Natural and Cultural Resource Management scheme.

by John Carter

The reserve had deteriorated after many years of gravel removal, rubbish dumping, camping, timber removal and weed invasion all of which threatened the *Thomasia* population.

To overcome these problems, the reserve was fenced to restrict access and then surveyed to determine the exact number and distribution of the rare species.

The *Thomasia* is known from only six locations, all of which are within 10 kilometres of remnant wandoo bushland in the Mundaring District. The known number of plants is 1600, with two-thirds of these

occurring on the gravel reserve. The Wheatbelt Aboriginal Corporation has a strong corporate commitment to land care, the environment and the natural heritage of the region.

WAC information officer Trevor Bourne said the project went like clockwork and the work crew from York led by Colin Boundary - Frank Woods Snr, Vernon Ford, Wayne Narkle and Ray Lawrence - all enjoyed working in a bush environment.

"The Nyoongar people involved in this project are from the local community and like all the Nyoongar people in the region, they are eager to get involved in anything that helps to counter erosion, salinity and

deforestation of their homeland," said Trevor.

This project was the first of a number that CALM and WAC will be involved in this year.

Others have been approved for the Merredin and Moora Districts with further projects currently being proposed.

Mundaring district manager Peter Keppel said he fully supported this type of project.

"This type of work enables CALM to become involved in the local community and work with people who have a strong affinity with the land.

"It also encourages the local community to have a sense of ownership with reserves in their area."

## A dark day dawns near Darkan

by Steve Toole

In these tough times a little cooperation is sometimes necessary to get a job done - and if it can be done in a social atmosphere - all the better.

Late last year staff from the Pingelly office of the Narrogin District joined Katanning District staff to cover a disused well at Hillman Nature Reserve.

This reserve is of interest to tourists as its two large granite outcrops act as catchment areas for a railway dam built in the 1930s. The water is then fed from the outcrops to the dam by about two kilometres of concrete channel.

Next to the dam is a deep old well. While Katanning District had erected barriers to regulate vehicles as well as 'risk area' signs, it was decided further measures were necessary to protect the public from injury.

A cover of weld mesh and metal tubing was

designed by Allan Jones of Engineering Services, with John Malone completing the drafting work.

The task was then to find someone to construct the three parts of the cover at the right price. This was when the Pingelly Reserve Management Team - reserve officer Brian McMahon, and maintenance workers Martin Clarke and Howard Robinson - came to the rescue.

Not only did they complete the fabrication work at a very reasonable cost, but they also offered to help install the 'monstrosity' - so long as we provided a barbecue lunch! The offer was too good to pass up.

The project had been put off several times, but when we finally did get together the day was dark, overcast and freezing cold.

Snow even fell in several areas of the south-west - in November! Hardly a day to be in the great outdoors.

We met at Dardadine, an old rail siding about 20 kilometres north-east of Darkan, and then travelled south to the reserve.

Katanning reserve management assistants Brad Bourke and Des Plumb were well rugged up in jumpers and rain coats, with Pingelly staff similarly dressed.

It was a hard grind levelling the area, digging the footings and then carting the 'monstrosity' into position. Finally the legs were cemented into place and the three sections bolted together.

Fortunately the rain, hail and snow cleared while we enjoyed the barbecue lunch, prepared by Brad Bourke using his extensive culinary skills.

All in all it was a job done well under extreme conditions and thanks go to all staff involved.



Pingelly maintenance workers Howard Robinson (left), and Martin Clarke (on truck), prepare to unload the 'monstrosity' with the help of Katanning reserve management assistant Brad Bourke. Photo by Steve Toole

## A new whale-watching platform at Point Ann

As a result of the increasing numbers of southern right whales moving up to the south coast during winter and spring, Fitzgerald River National Park has become a popular destination for whale watchers over the past couple of years.

The many bays from Dempster beach to Dillon Bay in Fitzgerald River National Park seem to attract the most whales, with up to 11 whales to be seen in any one bay.

The bays also provide a relatively safe place for the whales to give birth to their calves.

Point Ann, situated at the eastern coastal end of the park, has become one of the park's most popular destinations for whale watchers because of its comparatively easy access for two-wheel drive vehicles.

Its headland also allows an excellent vantage point from which to view the large numbers of whales

by Nathan McQuoid

that frequent the area. The pressure from the increasing numbers of visitors using the headland vantage point has been impacting negatively on the vegetation and soils at the site.

This made it necessary to build a raised wooden boardwalk to protect the fragile vegetation on the headland from being trampled.

The vegetation is a mixture of coastal, quartzite and laterite-preferring species reflecting the geology, soils and situation, that make it a unique community in itself.

The boardwalk incorporates special viewing platforms and sits along the edge of the headland facing the ocean.

It was designed to sit low in the profile and follow the natural contour, thereby reducing its visibility from other vantage points.



A whale-watching platform in the making at Point Ann. Photo by Martin Lloyd

Its ramp-like construction makes it accessible by wheelchair.

Signage for the platform was enhanced by the design of a symbol that follows the basic shape of a southern right whale.

Rangers Lindsay Brown and I designed and built the structure with the help

of volunteer Stewart Mayhew from Perth, the Albany Greenskills group and CALM Albany District staff.

The Australian Army is building a consolidated path from the car park to the boardwalk in March and April as part of its reserve training.

## More from the Dreamtime - The Rainbow Serpent

HERE is a story told to me about the Rainbow Serpent.

by Trevor Walley

It is described as having the thickness of a tractor tyre, with length uncertain. It may have a snake or dog-like head and a horse's mane.

The Serpent also has scales and is all the colours of the rainbow. If you were from the area you were completely safe from accidental drowning - it would save your life.

I was told 'Never throw rocks at the Serpent because it will swim around in circles, creating whirl-

pools in the hope of sucking you in. If, however, you're on land it will swim around and start spitting at you. If the spit hits you, you'll become very sick and possibly die (unless the medicine man succeeds in saving you.)'

The Rainbow Serpent lives in a cavern near the junction of the Murray and North Dandalup Rivers.

It is also the place where men north of the area threw precious rocks to please the Serpent.



# Herbarium's annual wrap-up

Readers may be familiar with the work of famous artist Christo who wrapped the Sydney headlands in kilometres of parachute silk.

Less widely known are the feverish activities at CALM's Herbarium each December when staff make a fine art of wrapping computers, photocopiers, microscopes, chairs, telephones, etcetera.

Why would Herbarium staff do this?

The short answer is 'fumigation'.

Western Australia's botanical collection, comprising some 450 000 specimens housed at CALM's Herbarium, has an estimated replacement cost of about \$26 million.

To protect this collection it is necessary to fumigate the building against insects such as drugstore and museum beetles.

Infestation by these

by Suzanne Curry

storage beetles can do irreparable damage to the specimens in a very short time.

In protecting the botanical specimens, however, it is necessary to protect staff and other fumigant-sensitive items - hence the wrap-up.

Each December, nearly two days are spent by staff in preparation for fumigation.

Over the past three years Co-Operative Bulk Handling Ltd has been responsible for this task, which has become imperative for the preservation of our botanical heritage.

The challenge after fumigation is to ensure that reinfestation does not occur and the Herbarium has introduced a list of quarantine procedures, copies of which are available from the receptionist at the front

counter of the Herbarium.

The procedures include: visitors wishing to use the Reference Herbarium must microwave their specimens on entering the building; specimens that have not been fumigated, microwaved, or deep frozen are not to be carried through the building from the entrance foyer to the basement; all entry to the building is through the front foyer, after signing the visitors' book and gaining permission from the receptionist to enter the building; visitors wishing to use the driers and other facilities located in the 'dirty room' should contact technical officer Phil Spencer beforehand on (09) 334 0491.

Adherence to these quarantine procedures in conjunction with the annual fumigation will ensure the successful protection and preservation of the State's botanical collection.



Andrew Rado taking a core sample of sandalwood to determine heartwood formation. The host dragon tree (*Sesbania formosa*) is in the background. Photo by Alison Rennie

## CALM strikes oil in the Kimberley

by Chris Done

After more than a decade, a research project in the Kimberley is starting to have a smell of success about it. It involves the fragrant sandalwood so sought after in South East Asia for the joss sticks used in religious ceremonies.

While the native commercial sandalwood grows much further south, the research at Kununurra focuses on the exotic Indian sandalwood.

Until recently there had been little indication of the time needed to produce the valued heartwood and oils. But the latest bore samples from several of the oldest trees in the irrigated plantings revealed the distinctive aroma and some obvious heartwood formation, although it is still far too early to calculate the best time for harvesting.

The first plantings occurred 12 years ago as

part of a larger project to determine the suitability of many tree species.

The sandalwood seed was obtained from India by Peter Richmond, then manager of the Forests Department's Goldfields Region. The seedlings were grown, planted out and nurtured by Ian Scott (former CALM senior forester) and myself.

Growing trees here has always been difficult with the temperatures, termites, soils, weeds and pests. However, enough seedlings survived and showed good enough growth to give cause for hope.

After a great deal of effort, Peter Kimber (principal operations officer) managed to import more seed from India. Additional seed was also obtained from the Northern

Territory where the species was probably introduced centuries ago by Macassan traders. These extra plantings helped build up the gene pool.

A six year old arboretum became a seed orchard, to offset the difficulties in gaining supplies of high quality seed from overseas.

The sandalwood project was boosted by the addition of research officer Andrew Rado. His position is jointly funded by the Australian Centre for International Agricultural Research (ACIAR), the Sandalwood Conservation and Regeneration Project (SCARP) and the Sandalwood Research Institute. The research work is being done under the direction of CALM, ACIAR and SCARP.

Andrew is enthusiastic about the project but recognises the enormity of the task. "As with the introduc-

tion of any new species, it takes a long time to build up the basic information like methods of site preparation, nutrient requirements, stocking rates, irrigation and fertiliser rates."

Andrew said that with the species being semi-parasitic, the role and type of the host species also had to be investigated.

"Currently it looks like the best approach is to have three different hosts each relating to a different stage of the sandalwood's development, from nursery hosts through to long-term hosts. Another factor in this process is the possible commercial use of the host species at some stage.

"All in all there is a lot of work to be done but the returns could make it very worthwhile. The amount of work necessary to get the pine plantations going was immense but it ultimately paid off."



One of many normally busy work stations wrapped up and ready to go - nowhere. Photo by Suzanne Curry

## CALM and RAOU collaboration

FOR five days last spring Kalgoorlie operations officer Geoff Young and I joined six members of the Royal Australian Ornithologists Union (RAOU) for a bird nest recording expedition to Plumridge Lakes Nature Reserve, 400 kilometres north-east of Kalgoorlie.

Geoff and I were at Plumridge to carry out reserve management work and the ornithologists were taking advantage of excellent seasonal conditions in the desert to record birds' breeding responses.

Both parties were keen to exchange knowledge and share experiences so that a more accurate data base could be established.

The RAOU expedition, led by the acting warden of

by Andy Chapman

Eyre Bird Observatory, Tim Hunt, travelled north across the Nullarbor to meet the CALM contingent at an abandoned sandalwood cutters' camp within the reserve.

The camp served the expeditioners as a base and prompted off-duty conversations about the history and management of the sandalwood industry.

Bird numbers and breeding habits were recorded during day trips into a large number of varied habitats within the reserve which included: lake frontage, myall and mulga woodlands, mallee over spinifex and the

magnificent rolling yellow dunes of the Great Victoria Desert.

Of 40 bird species recorded only seven were breeding, which was less than expected.

A probable explanation is in this largely waterless area, most birds are insectivores, and the comparatively low temperatures at the time may have inhibited the availability of insects as food for birds.

Our combined efforts recorded an additional 10 species for the reserve including the spectacular and very rare scarlet-chested parrot.

A follow-up trip recorded a further 12 species, making a total of 22 additional species for the reserve.

Did you know that for some years CALM has had a deliberate policy of not using rainforest timbers in the construction of its signs and recreational facilities? That all manner of 'stubby clubs' support special activities with the money from cashing in the empties? That many offices use both sides of their paper for photocopying and also reuse their envelopes?

All over the state, CALM staff have been practising various ways of 'reducing, re-using and recycling' our resources for some time.

Not only are staff keen to see us being conservation-oriented with our wildlife and land management practices but also in the office, library, store, workshop, laboratory - in fact everywhere!

In Collie they have been recycling petroleum products from the workshop for some years according to mechanic-in-

charge Garry Brown.

"All the used oil, as well as any contaminated petrol, kero or diesel from the workshop are sold to a firm in Bunbury, where it is cleaned and used as fuel oil," he said.

"The workshop also has a bin for scrap steel which is then collected and also gets us a few dollars."

In the metropolitan area an informal group has been set up to encourage and advise on environmentally friendly practices in the office and the field.

The group known as EarthWise currently consists of Kelmscott staff Jeni Alford, John Butts, Alan Sands and myself, Fiona Marr from Pinnacle House and Paula Wood from The Hills Forest.

Paula Wood said the EarthWise group aims to have an impact firstly in Kelmscott and The Hills Forest and then in the rest

of the Swan Region.

"It's hoped we can provide an example for the rest of CALM. This is something which can work from the bottom up, something which all staff can do, and should do, without being directed from above.

"The group will look for ideas on effective methods of reducing, re-using and recycling, and then get these ideas out to other districts and branches. We are also finding out what other community and government groups are doing in this area, and will pass on their successes."

Swan regional manager Alan Walker said he was pleased that staff had taken the initiative.

"EarthWise is a sign of the times. CALM staff are committed to being environmentally responsible in their tasks and activities. EarthWise will help The department be energy-efficient, environmentally friendly and cost effective in its functions," he said.

## Canny conservation

by Rae Burrows

John Butts said that already the group has had some effect.

"A new fax machine is required for the Kelmscott office and rather than purchasing the cheapest machine, we are looking at buying a machine that uses recycled paper for copying. While this option is more expensive in the short term it works out cheaper in the long term.

"A study showed staff time would be saved by not having to photocopy important inward faxes and there are also the savings in energy and paper not to mention the environmental benefits.

"This is just one example - there are a number of other ways where we have been able to achieve financial and environmental savings."

If you have some innovative conservation methods in your work area, EarthWise would love to hear about them - phone me at Kelmscott on (09) 390 5977.