

CALM NEWS

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

February 1993



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A positive attitude, single-minded dedication and self-discipline are qualities that set a high-achiever apart from the rest. It is these qualities that have earned reserve management assistant Sharon Fraser the title Goldfields Sportswoman of the Year for 1992. Read about her on page 7 in 'A new Fraser downs on the Goldfields.' Photo courtesy Kalgoorlie Miner

Potential for \$1.5 billion industry

WESTERN Australia's forest-based industries have the potential to generate \$1.5 billion dollars a year export income by the early part of the next century, according to Executive Director Syd Shea.

"Industries based on the State's native hardwood resource have already made a significant investment into research technology and marketing since the 1987 Timber Strategy was endorsed," Dr Shea said.

"As a consequence, there's a major demand for processed native timber products, despite the recession.

"It's important, however, to recognise that every stage of the wood production cycle, starting with the establishment of trees, represents an increase in value."

Dr Shea said an excellent example was the State's potential to establish 200 000 hectares of trees on already cleared agricultural land in the

south-west (See 'CALM wins new growth industry,' December 1992-January 1993 *CALM NEWS*).

"Exporting wood fibre will complement any future proposals to establish a pulp mill in WA.

"More than one million hectares of already cleared land in the south-west is suitable for plantation trees.

"This is enough to provide feedstock for two or three pulp mills and still service the existing demand for wood fibre from

the established industry."

Dr Shea said an increase in value would not occur unless there was integrated use of the logs produced.

"Just as a butcher can't afford to kill a cow for its fillet steak alone, it would be uneconomical to use only those parts of tree logs which are suitable for high grade furniture.

"We're fortunate in this State that our climate and soil conditions mean we can produce wood fibre as efficiently, or more

efficiently, than anywhere else in the world.

"This is really one industry where Australia has a comparative advantage."

The other characteristics of the forest industries were that their capacity to generate jobs per unit investment was much greater than other Australian export industries.

As well, the industry could play a major role in helping reverse economic decline in WA's rural areas.

Good oil to light your fire and clean machines safely

AN environmentally friendly industrial-strength solvent may be the key to revegetation of much of WA's degraded farmland.

CALM's Vegetation and Tree Planting Advisory Service (VATPAS) has been working with Professor Allan Barton from Murdoch University and consultant scientist Greg Eaton of Mertz Australia Pty Ltd. Their project was to develop eucalyptus oil as a solvent that can replace ozone-depleting industrial chemicals.

Safety benefits

Tests carried out by CALM and Alcoa Australia have found that "Eucasol", as the product will be called, compares more than favourably with petrochemical solvents currently in use by industry. The natural product also has health and safety benefits, as well as being totally bio-degradable.

Eucalyptus oil is distilled from the leaves of several species of mallee-type eucalypts which occur naturally throughout the wheatbelt of WA.

Higher oil yield

CALM staff, in association with Professor Barton, have been screening these species to select trees which have a higher than normal leaf-oil

by Tim Birmingham

content. This year seed orchards will be established using seed collected from the mallees to produce genetically improved seed for future commercial plantings.

CALM has also received funding this year to plant more than 120 kilometres of hedge-size plantings to examine various commercial planting layouts and compare the performance of several different species of high oil-producing eucalypts.

After an establishment period of three to four years, the mallees can be harvested every two years, yielding between 70-100 kilograms of eucalyptus oil per hectare.

Pilot scheme

Another potential eucalyptus oil product being tested is the "Mallee Boy Firelighter". Made of eucalyptus oil, beeswax and sawdust, the firelighters will be included in bagged firewood supplied to Rottneet Island in a pilot scheme.

Good Samaritan Industries will manufacture the firelighters and bag the firewood under a 12-month contract.

Sharefarming partnerships similar to those in

Fitness scores with fire-fighters

SOME 560 staff have now taken part in CALM health and fitness seminars. Most are involved in fire-fighting duties and have enthusiastically endorsed the principles learned at the seminars.

Many have written to the Executive Director or their supervisors, expressing their all-round satisfaction with the seminars and how the application of these principles has in

many cases improved their lives, both within and outside the workplace.

Districts from Moora down to Esperance have been exposed to the seminars and have now had the opportunity to put the principles learned into practice.

Here are some reports on their progress from Fire Protection Branch manager Rick Sneeuw-jagt:

"Three people in Perth

by Verna Costello

District have shed 10 to 14 kilograms each and another is rowing on the lake at Yanchep as part of his aerobic exercise.

"Others choose a variety of exercise options including cycling, bush-walking, jogging, and aerobics.

"Margaret River and Ludlow staff have built

volley ball courts and issued challenges to other Districts to compete with them."

Below are extracts from some of the letters:

From Moora, operations officer Ken Borland: "This District had multiple lightning strikes on December 27. The largest fire at Eneabba lasted six days before reigniting two days later and burning for a further three days.

"My wife was heavily

pregnant, (Melissa Jane arrived January 20) so being away from home for such a duration while she was in this condition caused me some anxiety.

"The techniques of relaxation and the knowledge of how our bodies relate to stress helped me to overcome frustration and sleepless nights at the fire and to remain cool and professional.

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CALM has experienced some difficult times over the last several months.

It is not unusual for this Department to be involved in controversial issues. That's the penalty we pay for working in an exciting area and being in a department that actually gets things done.

But the latest series of controversies were particularly focused, involved some vindictiveness, and occurred in a pre-election climate.

As you are aware, it is our normal practice to respond vigorously to unfair criticism, but on this occasion we chose not to because to do so would have achieved the objective of our critics and also have sucked us into a partisan political debate.

To a large extent, one of the principal reasons for the bitter attacks on CALM has at least now been partially resolved. The State election has been held and the 'majesty of democracy' (as former US President George Bush termed it) has expressed itself.

There are still many complex and controversial issues to resolve, but I am absolutely confident that CALM will be able to work very positively with our new Minister, Kevin Minson, and produce the best results for the majority of Western Australians.

As I noted in the last editorial of this newspaper, we have a number of exciting projects which, after a lot of work, are now within reach of being completed successfully in each of our main areas of production, conservation and tourism and recreation.

It is easy to criticise the Westminster system of democracy - but the alternative is unthinkable.

The very fact that we can look forward to working with our new Minister to achieve exciting benefits for this State, after a period of considerable trauma, is a testimony to the robustness of our political system.

I regret that some members of the Department, and the Department itself, have been subject to unreasonable and often vindictive accusations. But even though it doesn't appear on our duty statements, we have to accept that today it is part of our job.

I take this opportunity to thank all those individuals and sections of the Department who gave me personal support and their commitment to what CALM is all about during the difficult times we have experienced.

Syd Shea

Dr Syd Shea, Executive Director

Summer holidays bring an increase in the number of holiday-makers using CALM's resources. With this increase comes a rise in the number of letters heaping praise on our staff and commending us on our services. Here are just a few such letters:

Mr R J Sneeuwjagt
Manager, Fire Protection
Branch

Dear Rick,

With Christmas behind me, and the material I gathered in Western Australia among the best presents received, I am able finally to sit down and write to thank you and the staff of the Department of Conservation and Land Management of Western Australia.

I will send specific letters of gratitude to those I met and spent time with.

I would like to take this opportunity to address a general and heartfelt thanks to the Department and particularly those I came in contact with, however briefly.

As you are aware, I have investigated aspects of fire management in the United States, China, Portugal and the States of Australia, I am familiar, through reading, with the efforts made in many other places.

The system that has been put in place in Western Australia for the management of prescribed fire is second to none in my experience.

There are many factors and influences woven into a complex framework of explanation as to why this is so.

My Ph.D research and my second exposure to the Department of Conservation and Land Management leads me, in no doubt, to the conclusion that it is the staff and their attitude that is crucial.

Without exception I was impressed by the enthusiasm, professionalism, easy communication and mutual respect demonstrated by the field and office staff with whom I came in contact.

I have encountered equal amounts of capability, skill and attention to the task in hand among individuals in other places.

The Department stands out in respect of the generic extent to which these qualities are found in its personnel.

The identification among the staff that these qualities are to be sought, and expected, in each other and that individuals are respected for their particular ability to contribute, was heartening proof that it is possible.

My time in Western Australia was a very valuable five days. The Prescribed Burning Training System Project will benefit greatly from it.

On behalf of the Project Consortium may I extend my thanks and appreciation of the efforts to assist me of you and your staff.

I again commend your organisation on its prescribed fire management.

Yours sincerely,
Peter F. Moore,
Co-ordinator, Prescribed Burning Training System Project.

(This is a co-operative project of the Educational Training Foundation, the Department of Bush Fire Services, the Blue Mountains City Council, the Shire of Warringah, and the Forestry Commission of NSW.)

Executive Director,
Dear Sir,

I wish to thank your Department for providing vehicles to parade competitors at the World Teams Championship Motocross des Nations at Manjimup.

Mr Alan Lush and his team went about their task in a very professional manner and the parade went off without a hitch, adding that special touch to an outstanding event and contributing to the overall success of the weekend.

Our State, and in particular the south-west, has received tremendous accolades from international and national visitors.

Motorcycling of the highest quality, with 16 countries competing, was witnessed by a crowd in excess of 20 000 people over the weekend.

Again, thank you for your Department's involvement and I look forward to your continued support in the future.

Yours faithfully
Wayne Connelly
President Manjimup
Motor Cycle Club (Inc.)

Dear Dr Shea,
Re Staff, Yanchep Park

On Sunday January 24, my 11-year-old son lost his expensive dental retainer (plate) at Yanchep National Park.

We thought it may have been put in the rubbish, which was collected before we discovered the retainer was missing.

I inquired at the administration office if I could search the rubbish and the response was overwhelmingly positive.

One of the CALM staff, Mr Jim Smith I believe was his name, went with my friend and me to the rubbish truck, climbed in and started looking for our plastic rubbish bags.

We found a couple but couldn't locate the third.

He stayed looking for ages, even after we had given up. This was in the late afternoon when no doubt he was due to finish work.

His colleague, a woman by the name of Annie came along and she too helped in a very pleasant way.

They showed no irritation at helping in such an unpleasant task.

We didn't find the dental retainer but we did find two people who knew the real meaning of public service.

Annie also went with us back to the pool and helped us look there!

I think they both should be commended.

Yours faithfully,
Michael V. Day,
Yangebup WA.

Dr Syd Shea
Dear Sir,

We would like to thank you for the assistance we had on our phytogeographic field trip through WA from October to December, 1992, from the staff of several national parks.

Outstanding was the help we received in Cape Le Grand National Park by the ranger Mr Ian Solomon.

His knowledge and enthusiasm and his reference herbarium have been a great help to us.

His reference herbarium and notes for each species would be worthwhile being published, adding only a few more restionaceae and cyperaceae perhaps.

We had never seen before such a gentle and helpful ranger who makes the whole functioning of the park a real pleasure to the visitor.

Once more, many thanks and best wishes.

Erika and Sandro Pignatti,
Biology Department
University of Trieste.

According to Ian, Erika and Sandro have published a flora of Italy, in four volumes, and are

now tackling the flora of the coastal areas of the world.

The following was a post card from the US:

G'day mates:

I had the great pleasure of visiting your fantastic Kimberley Region with AAT King (tourist company) 31 August-10 September and being a West Virginia hillbilly I found the place to be beyond my wildest expectations after 77 years.

All my life I had wanted to see Australia. I am now convinced the Kimberley is Australia. Absolutely unbelievable.

September 1 or 2, a park ranger visited us in the Bungles and gave us copies of the the Kimberley Parks where I found your info on LAND-SCOPE- Window on the West, conservation quarterly.

How does one subscribe or otherwise obtain copies? Sounds like a very interesting publication.

Very happy to have missed Mr King Brown and the seven-metre salties I was advised to be on lookout for.

Enjoyed especially the galahs, corellas (white and coloured), red-tailed black cockatoos, crimson-winged parrot, wedge-tails, willy wag tails, whistling kites, barking owls, fruit bats, bowerbirds, blue martin, black darter and on and on - one of life's great experiences and above all else the Aussies we met made it all right.

Truly Great.
Thank you Australia!

Charles C. Larue
Cornville, AS, USA.

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Managing Editor: Ron Kawallak
Editor: Verna Costello

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

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Telephone: (09) 389 8644 Facsimile: (09) 389 8296

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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 type-written 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 Curron, Como (09) 367 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/h plus wages and plant. Contact Peter Moore, Collie 341 988.

Social Club Calendar 1993:

- | | |
|------------------|---|
| March 7 | - Yanchep Family Day |
| April 18 | - Bus Trip To Nowhere. |
| May 15 | - Culture Creation - Play or Film and Dinner. |
| June 18 | - Rock and Roll Bowling (tenpin). |
| July 24 | - Christmas in July. |
| August (T.B.A.) | - Sunday Brunch at Fremantle. |
| September 18 | - Theme Night - Involving Other Departments. |
| October (T.B.A.) | - Car Picnic - Hills Forest. |
| November 27 | - Dinner Dance. |
| December 10 | - Sundowner/Sausage Sizzle. |

For further details contact Social Club secretary Ian Old on (09)334 0397.

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place for Tasmanian blue gum tree crops are planned as the basis of commercial mallee plantings throughout the wheatbelt.

This would encourage

the scale of planting required to build a solid eucalyptus oil industry in WA, as well as provide the necessary land care benefits to lower ground water tables and prevent further salination of agricultural land.

STAFF NEWS

Appointments:

John Fishwick, Forest Ranger, Inventory, Manjimup; Vicki Kennedy, Officer, Narrogin; Bruno Rikl, Forest Ranger, Inventory, Bunbury; Jodie Kallmeijer, Officer, Busselton; Mathew Jones, Forest Ranger, Inventory, Bunbury; Jeremy Spencer, Forest Ranger, Inventory, Manjimup.

Promotions

Grant Pearson, Research Centre Manager, Woodvale; Robyn Wilson, Research Officer, Land Information, Como; Jacques Rene, Management Information Officer, Finance, Como; Terry Maher, Senior Fire Operations Officer, Fire Protection, Bunbury; Serena Chew, Analyst-Programmer, Timber Supply, Como; Tom Rouse, Forester, Pemberton; Glyn Yates, Senior Operations Officer, Collie; Stefan Dumitro, Senior Finance Officer, Finance Branch, Como; Gavin Ellis, Manager Plant Propagation, Manjimup.

Transfers:

Leanne Dare, Officer, Geraldton District; Daniel Hunter, Wildlife Officer, Wildlife Branch, Como; Warwick Roe, Wildlife Officer, Wildlife Branch, Como.

Retirements:

Paul Wilson, Principal Research Scientist, Herbarium; Jean Collins, Administrative Assistant, Fire Protection Branch, Como.

Stress-free bridge building in the Southern Forest

by Des Donnelly

CALM has installed the first pre-stressed laminated timber bridge deck to be built in WA.

The deck was lifted into place at the Loverock Road crossing, over the Gardiner River at Northcliffe, with the help of a 30-tonne Brambles crane.

Lifting and setting the deck in place took less than 15 minutes, and was witnessed by CALM's Northcliffe gang, who had prepared the bridge site and bed logs.

The deck was engineered by Brueckle, Gilchrist and Evans and Main Roads engineers assisted with design checks.

Dry, engineering-grade jarrah timber was supplied by Bunning Forest Products Pty Ltd, with steel and

length of the deck being six and a half metres.

After the deck was lifted into place, traffic began to cross, compacting the approaches within a very short time.

The bridge was also loaded with a chip log truck to measure the strain, deflection and general weight-bearing capacity of the deck.

All measurements checked out satisfactorily and the bridge will be opened to traffic as soon as approaches are completed and guide posts are erected.

The technology allows bridge decks to be pre-packaged for export interstate or overseas and is being used in Canada, where some 350 bridges have been refurbished.

reinforcing rods being supplied by Structural Systems Ltd who also supplied technical assistance and equipment to stress the deck.

The road is a CALM haul road used in the transport of logs to Bunning's Northcliffe sawmill.

The original road bridge was built by Kauri Timber Company as a bed log stringer and sawn decking bridge. The decking used was karri and had been severely eaten away by termites.

The pre-stressed timber deck sits on a bed of logs on either side of the river. The span is a clear five metres with the overall



Course participants worked in teams to solve problems. Here the team had to build a bridge across a fictitious minefield and carry all the bridge-building materials to the other side. Photo by David Gough

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"For this I am sincerely grateful.

"I feel this course is a must for all Departmental fire-fighters."

From Busselton, senior forester (Plantation Management) Ray Fremlin: "I am sure these seminars are appreciated all the more because there is tangible benefit to the participants' personal lives.

"The enthusiasm with which everyone participated and the obvious intention by the majority to develop a fitness program suggests there will be a measurable improvement in work performance.

"The benefits of the team approach in terms of achieving goals and relief of stress were emphasised at the seminar.

"In team exercises where work groups competed against each other, it was interesting that the teams that had a long association with each other were far better at resolving problems in a congenial and efficient way compared to those where the association was loose or of short duration."

From Albany, senior

ranger Martin Lloyd: "On behalf of the 15 South Coast Rangers ... I would like to compliment CALM for taking the initiative towards its staff's welfare.

Fitness-testing ... gave members an excellent insight into their current health status; normally an area which some tend to avoid, but everyone set themselves goals for their future well-being.

"I feel sure fitter, healthier employees will be, not only benefiting themselves, but also the Department.

"May I suggest CALM has follow-up seminars to maintain a fitter, healthier work force."

From Manjimup District, storeman Brian L. Greene: "I have always thought that for 53 years I was in reasonable health and fitness - until I had the fitness assessment done!

"The ECG stress test showed that I had the start of coronary heart disease, nothing serious and nothing that could not be reversed by a change of diet and more strenuous exercise, on which I have already embarked.

"By the Department of

CALM's initiative and concern for its employees, I have the opportunity to avoid a serious heart complaint in the years to come.

"I wish to say to Dr Shea, on behalf of myself and my family, thank you and everyone involved in the program and hope that further down the track a reassessment be done to evaluate the progress I and others have achieved in our goal for better health."

"From Mundaring District manager Peter Keppel: "Our people have taken the initiative with the majority participating regularly in exercise activities.

"We have elected a coordinating committee (one member from each work group) who are developing a monthly program aimed at having maximum participation at a level necessary to improve each individual's level of fitness.

"This is being achieved by morning walks (half in employees' own time) twice per week and group activities such as volleyball, golf and swimming. Other activities planned are nutrition advice, and monitoring of fitness levels.

"An additional benefit

noticed in our workplace is the improved morale due to people taking an interest in how others feel and what they are doing to improve their fitness and health.

"On behalf of the personnel at Mundaring thanks to the Department for providing us with the opportunity to understand and work at the need for us all to be fitter, healthier and happier."

Rick Sneeuwjagt said a research study was being run parallel with the seminars to determine the aerobic fitness levels required by CALM fire-fighters and fire tanker operators.

"The study is being conducted by a University of WA Human Movement Department research graduate who is carrying out fitness tests on two teams of fire-fighters out of Mundaring District," said Rick.

"The crew is being monitored during fire break construction work both in the absence of, and in the face of fires."

"Results of this study will enable CALM to set target fitness levels that ensure fire-fighters are able to perform their tasks safely and effectively."



The new bridge deck undergoes weight-bearing exercises. Photo by Des Donnelly

LANDSCOPE soars

PAID subscriptions to LANDSCOPE soared by a breath-taking 47 per cent during 1992.

Subscriptions to the multi award-winning magazine reached 8 241 in December, an increase of 2 637 during the 12 months ending December 1992.

In addition, a further 1 700 copies are sold each issue through newsagencies throughout the State.

"Not only is the magazine the flagship of CALM's public information and community education program, it also fully pays for itself through subscription and newsagency revenue," said Ron Kawalilak, Director of Corporate Relations.

"This financial independence is very important if we are to continue to publish this vital

magazine, which is designed to increase community awareness, understanding and support for nature conservation and natural land management in WA.

"While LANDSCOPE has won State and nationwide awards for excellence, the bottom line is that it is this support from schools and a multitude of individuals that we should be most proud about."

CALM impresses top US ecologist

THE foremost forest ecologist in the USA, Dr Jerry Franklin, recently visited Western Australia and spent several days with CALM foresters.

Dr Franklin is Professor of Ecosystems Analysis at the University of Washington.

He is a world leader on the management of old growth forests and is the father of the concept of 'new forestry'.

"New forestry is just another name for sensible ecosystem management,"

said Dr Franklin.

"I am not opposed to timber harvest in natural forests, or even clearfelling where it is appropriate, but I advocate that all forest values must be considered, especially ecological values, when planning silvicultural operations."

Dr Franklin visited the karri and jarrah forests with Jack Bradshaw and Grant Wardell-Johnson, gave two seminars and had a long session with CALM's Corporate Executive.

He said he was most

impressed by CALM's forestry approach, especially the reserve system which had been created over the last 10 years, the silvicultural prescriptions for jarrah and karri and the comprehensive publications and management plans which CALM had developed.

He said that in his opinion, CALM was at the world's forefront in the application of 'new forestry' and that he would be using the Department as a good example when he returned to the USA.



Showing US ecologist Jerry Franklin (far right) around the 100-Year Forest near Pemberton are, (left to right) silviculture branch manager Jack Bradshaw, senior research scientist Grant Wardell-Johnson and assistant district forest officer Carol Dymond. Photo by Roger Underwood



THE YEAR produced the normal amount of surprises and challenges. The cadet field officer training scheme finished after three-quarters of a century and an increasing emphasis was placed on upgrading skills right across the workforce.

The total area under CALM's care increased with significant additions to several national parks while our vocabulary expanded to include 'QI', 'ecotourism', and unfortunately, 'ecoterrorism'.

We had our normal quota of visitors ranging from envious experts to misplaced marine mammals, the former giving praise, the latter causing curiosity.

Exciting discoveries of rare and endangered plants and animals continued as more people, with more knowledge, took to the bush.

Old recreational favourites such as Mundaring's *Go Bush!*, Leeuwin-Naturaliste's *On The Ridge* and Perup's *Wild Weekend With CALM* were enlarged to be even bigger and better.

The unusual requests didn't deter our staff who sent gum leaves to Japan and provided jarrah 'knees' for the quarterdeck of the *Endeavour* replica.

Our good reputation and some pretty hard work enabled us to gain external funding from both government and industry sources. Reciprocal agreements also allowed other works to be completed.

January

AFTER many years' hard work, the Lesueur National Park was declared. The 27 500 hectare park has extremely high conservation values, with its 821 plant species representing 10 per cent of the State's flora, in addition to the 132 species of birds, 49 species of reptile, 15 species of mammal, and nine species of frog.

Aboriginal issues were further recognised with the appointment of an Aboriginal Liaison Officer, and with greater involvement of the Nyoongar community in conservation policies for the south-west.

Fires over the Australia Day weekend kept fire-fighters busy in the south of the State, a fortnight after fires caused the temporary closure of the Nambung National Park.

Elsewhere, crocodiles were getting aggressive around Kununurra, as were sea lions around Cervantes, and the large dorsal fin of a sunfish was creating shark panic around metropolitan beaches.

A 3.4-metre scamperdown whale stranded near Dunsborough was successfully rescued, while the publications *Range to Reef* and *Wild Places, Quiet Places* proved popular enough for reprints.

February

THIS month saw the release of three of the year's most important documents.

The *Draft Nature Conservation Strategy for Western Australia* was released for public comment. The report made recommendations for the further enhancement of conservation values on CALM estate while recognising the advances made in the last 30 years.

Recommendations included the establishment within CALM of a threatened species unit, the creation of a more comprehensive reserve system (including the formation of four new national parks), and the increased protection for threatened

plant communities.

The second document was the most comprehensive review of forest management since the 1987 Timber Strategy. It suggested the creation of new national parks, changes to timber harvesting practices and improved conservation measures.

As a result, 18 new conservation reserves, totalling 124 000 hectares, and two new national parks were proposed for the south-west forests. Despite these increases, timber production levels would be maintained as the review showed the original estimates in the Timber Strategy were too conservative.

Another of the review's major initiatives was Operation Foxglove, which proposed to make 20 per cent of the forests fox-free within 10 years.

The third document was the agreement between the CALM and the Australian Heritage Commission.

The two agencies jointly assessed over one million hectares of forest to determine areas worthy of listing in the Register of the National Estate.



The historic agreement is expected to become the model for similar moves around Australia.

Meanwhile, fires were still closing parks and threatening towns, and volunteers were helping with studies of the marauding *Drupella* snail on Ningaloo Reef.

Chris Haynes, in Venezuela for a conference, witnessed the aftermath of a political coup, while closer to home the phenomenon of tree-spiking showed some were prepared to resort to dangerous extremes to make their point.

March

A 17-MONTH independent investigation by Daryl Williams QC dismissed allegations of illegal logging activities in the southern forests and cleared CALM of any improper conduct.

Instigated by the Minister for the Environment, the inquiry found no significant breaches of the relevant Acts and regulations. However, Mr Williams did express concern at certain "obsolete and redundant" forest regulations and made recommendations to update the CALM Act, where

necessary, to overcome these deficiencies.

In the Pilbara, the northern quoll was found to be flourishing after 12 years of '1080' poison baiting for foxes and cats. With help from Woodside Petroleum, the baiting program has allowed the numbers of euros, rock-wallabies and native rats to increase significantly.

Recognition for our expertise came from many sources. A group of north American fire experts praised both our fire management practices and personnel, while *LANDSCOPE* magazine won the prestigious National Print Awards for excellence in printing, pre-production and design. But the praise didn't stop there with Roger Underwood noting that at a Sydney meeting on forestry issues people wanted to "do things like CALM does them".

April

THE Resource Assessment Commission's final report into forests and forest industries recommended the concept of the integrated land management agency, as pioneered in WA by CALM, should be adopted throughout Australia. The report also concluded that CALM had in place sustainable yield policies for WA's native forests.

The Department's large contingent of volunteers received well-deserved recognition with the presentation of the Volunteer of the Year Awards as well as Outstanding Service Certificates and Certificates of Appreciation. The more than 900 volunteers worked in duties as diverse as those of guides in marine parks, and helping as research assistants on remote islands.

Contingency plans were drawn up to facilitate the fast clean-up of any oil spills in the Pilbara, while further south the Vegetation and Tree Planting Advisory Service was conducting field days to assist farmers with the latest on tree management and agroforestry.

Wildlife officers and Curtin University developed a system of genetic fingerprinting to prevent illegally captured birds being passed off as offspring of captive birds. The month ended with unusually severe fire weather over the Anzac Day long weekend which kept many fire-fighters busy in the south of the State.

May

WATER seemed to be a common theme in May with flooding in the Gibson Desert causing the planned release of endangered mammals in the *Desert Dreaming* project to be delayed.

Seaweek '92 featured a wide range of displays and activities in both the Marmion and Shoalwater Island Marine Parks. The theme of the annual nationwide event was 'Marine Parks - Saving Our Seas'.

Also featuring at the Hillarys Boat Harbour were three of the Atlantis dolphins who could not adjust to life in the wild. A special pen was constructed adjacent to Underwater World where an education program for public access was developed in conjunction with CALM.

Rat Island in the Houtman Abrolhos may need a new name! Trapping indicated that a control program carried out by CALM and the Fisheries Department the previous December had been successful. When the feral cats, probably introduced to kill the rats, are eliminated, the island may once again start to support nesting seabirds. At present it has no breeding seabirds at all.

June

ARBOR Day marked the start of the month with celebrations and displays across the State.

The Year 1992

Originating 120 years ago in Nebraska, it was first celebrated in Australia in 1889. CALM's annual *LANDSCOPE* poster competition attracted more than 7 000 entries from 140 schools around the State with winners announced on 6WF.

Five noisy scrub-birds flew higher and faster than ever before when they were relocated by Channel Ten's helicopter from Two Peoples Bay Nature Reserve to Bald Island Nature Reserve. If successful the new island colony will have the advantage of being predator free and is the fourth new colony to be established.

Protection was also being afforded to our indigenous ducks, quails and geese with the banning of recreational duck-shooting, while at Collie staff were elated to find a colony of quokkas near Wellington Dam.

The retirements of Barry Wilson and Jim Edwards caused a reshuffle of responsibilities for some Directors and the General Manager.

In the Kimberley, the barter system was flourishing through reciprocal arrangements with a mining company, a bus company, La Grange Mission as well as a shire council. The new 180-seat Geikie tour boat was transported from Perth free-of-charge by Gascoyne Trading with the event attracting plenty of publicity.

Healthy public interest in our forest management practices resulted in the draft of the 12



92 in Review



month long review attracting more than 2 000 submissions by the closure of the four month public submission period.

The Department continued to collect more awards, first from the Public Relations Institute of Australia (WA) for its communications program, and then Manjimup's Four Aces recreation development won the WA Civic Design Award.

July

A GREEN turtle and several loggerhead turtle hatchlings were washed onto metropolitan beaches while a 3.1-metre false killer whale became stranded south of Mandurah. Fortunately both stories had happy endings.

Interest in turtles was also high in the north of the State with nearly 10 000 tagged in a five-year monitoring program extending from North West Cape to the Kimberley, while in the latter location a crocodile census over an area of 140 000 hectares began.

Still in the tropics, the Broome nursery produced one millionth seedling. Growing only native trees, the nursery's aim is to encourage low water and low maintenance local gardens.

The local flora was in the news again when the *Kimberley Rainforests of Australia* received a highly commended certificate in the national Whitley awards of the NSW Royal Zoological



Society.

Four million trees were planted by the Department over winter in sharefarming and private plantation schemes. Pines and blue gums were planted on 3 300 hectares of cleared agricultural land and CALM estate throughout the south-west.

A captive breeding program for naretha blue bonnet parrots by private breeders under Departmental control successfully doubled the captive population in the first season. The program was funded by the breeders with CALM loaning birds to them in return for half the offspring.

Another first was the National Parks and Nature Conservation Authority gaining its first Aboriginal representative in recognition of the role Aboriginal people can play in conservation.

August

CITY residents were reminded of the effect of marine pollution in the form of discarded nets when an entangled southern right whale appeared in Cockburn Sound. Despite repeated attempts, the crab net could not be cut from the tail of the 10-metre whale before it disappeared. Near Mandurah, a dead sub-Antarctic fur seal washed up on the beach after becoming entangled in a fishing net and starving to death.

The old cadet school at Dwellingup was announced as the residential base for the Forest Heritage and Fine Wood Foundation. Catering for environmental education and industry training, it will also encourage students from all levels to undertake field studies from the centre. In addition, it will cater for tourist interest in the timber industry, from growing trees to crafting them into fine wood products.

A Draft Bill was prepared to make amendments to the Wildlife Conservation Act. The recommendations included measures to give more power to control weeds where they affected flora and fauna, in addition to suggestions to improve the management of the wildflower industry.

The management of the wildflower industry was also in the news with the formation of an advisory committee, made up of a wide range of interested groups, to ensure public input into the management process.

Public input was also regularly sought with the release of many draft management plans. This month's releases included a discussion of the contentious issue of horse riding in the West Cape Howe National Park, while one of recommendations of the Draft Goldfields Region Management Plan would result in increasing reserves in the area to 10.6 million hectares.

September

CALM was a co-organiser of a series of workshops to help improve coastal site planning and development. Held in the South-West and Mid-West Regions, they aimed to give participants, mostly from local government, an overview of the State's activities in coastal management.

Departmental staff also played a major role in the National Biennial Conference of the Australian Association for Environmental Education held in Perth. More than 200 papers were presented on a broad range of environmental issues including

Aboriginal perspectives, law, schools curriculum and the Rio Summit. Several staff were active members of the conference organisation committee, while others attended the conference, some presenting papers.

A Threatened Species and Communities Unit was set up to coordinate all government research

serve, the Hills Forest, Yanchep National Park and the Shoalwater Islands Marine Park.

These works programs will allow more educational activities to be carried out, some of which will be led by staff. The program will increase tourism on CALM-managed lands, during the day and at night, by promoting an appreciation of conservation.

The sophisticated techniques used by our staff for the forest inventory were recognised by Channel 7's *Beyond 2000*. Believed to be the biggest forest stocktake in the country, it was only one of many television and film projects based on our work or filmed on CALM-managed land. Topics have ranged from a multitude of nature-based programs, to a Japanese Dick Tracy drama on Matilda Bay Reserve, and the filming of *A Fortunate Life* at Yanchep and John Forrest National Parks.

A six-year project came to fruition with the release of *Flora of the Kimberley Region*. The book details all of the 2 085 known species of native and introduced plants from one of the last frontiers for botanists. Prepared by staff at CALM's WA Herbarium, it is more than 1 300 pages long, with 356 line drawings for species identification.

Researchers were busy searching sites near Witchcliffe and Karridale for things that go croak in the night. The tiny geococineas are about the size of a thumbnail and are the only frogs on the State's threatened fauna list.

November

TOURISM was one of the topics on the agenda at the Into Asia Conference. It was suggested the State was ideally placed to cater for the increasing demand for nature-based activities and tours. Our diverse and unique flora, fauna and landscape could generate even greater interest (and revenue).

Perth Outdoors was released to encourage people to take advantage of the recreation facilities within a day's drive of the city. The book lists nearly 300 recreation sites and is part of a wider plan, of the same name, to encourage locals as well as visitors to get out and enjoy Perth's natural environment.

Common visitors to coastal recreation sites are silver gulls. At a workshop, it was revealed that one local study had found the largest parts of the seagull diet were fried chicken, sausage and bread (giving hope cholesterol overdoses may keep them in check!) This particular study revealed only five per cent of gull's food came from natural sources.

CALM and local authorities commenced work on an action plan to control the birds.

The interest in Ningaloo Marine Park's whale sharks was so great that limits were placed on the number of tour boats in the viewing area. The whale shark is the largest fish in the world and may measure up to 18 metres.

Not too far away - by outback standards - from Ningaloo are the new Francois Peron and Kennedy Range National Parks. The former is on the Peron Peninsula, near Shark Bay, covering 40 000 hectares of undulating sand plain with spectacular sea views. It is also home to the rare thick-billed grass wren. The Kennedy Range National Park is 175 kilometres east of Carnarvon taking in 140 000 hectares of very dry range country. This dryness has resulted in the flora being only lightly grazed and so remaining in excellent condition, adding to

Continued on page 6



into endangered flora and fauna. The Unit is the first to be set up by a State Government and builds on the existing species management programs as well as the work done on predator control.

The Unit's formation was announced at the release of 22 captive-bred chuditch into the Julimar State Forest near Bindoon as a part of the recovery plan for the species.

Another first was the inaugural *LANDSCOPE* Expedition. Coming a week after the rain-delayed relocation of 40 boodies and 40 golden bandicoots from Barrow Island, the ecotourists assisted the *Desert Dreaming* project team in a variety of ways, including monitoring animal movement by radio tracking, pit trapping, collecting plant specimens and bird identification.

With fire season preparations under way it was an appropriate time to hold the first health and fitness seminar at Wanneroo. The program involves those who are largely engaged in demanding physical work, with particular emphasis on fire-fighters. Ultimately, it is planned to incorporate all staff in the program as part of a health and welfare policy.

October

THE Perth Outdoors Strategy was launched to encourage city residents to make better use of local recreation sites. The program was boosted by \$1 million, which will enable work to be completed at locations including Matilda Bay Re-

the rugged splendour of the Range.

The two new national parks take the State's tally to more than 60 with even more being planned.

Record winter rains were responsible for predictions of the worst fire season for decades, particularly in the western Pilbara, the Goldfields, central desert and the south-west. Satellite imagery was used to locate the areas at highest risk, thus allowing preventive measures that may help contain fires which threaten life or property.

December

THE big news stories were the two major agreements for overseas investment in tree planting schemes around Albany and Bunbury.

The Albany area will benefit from an agreement between CALM, Oji Paper Company and Itochu

Corporation. The \$60 million deal was the first time overseas companies had invested in commercial hardwood plantations in Australia.

Over a decade 25 million seedlings from the Manjimup nursery are to be planted on 20 000 hectares of already cleared farmland. CALM will be contracted to supervise the operation with the companies funding the project. The two Japanese companies assessed 38 other regions around the world before deciding that WA showed potential for further plantations. This view was put to an Industries Assistance Commission hearing by Dr Syd Shea, who suggested the State's forest-based industries could generate huge export incomes.

Later in the month, this view was affirmed with the Bunbury area being chosen by a Korean firm, Hansol Forest Products Company, for a \$30

million venture involving the planting of 10 000 hectares over a 10 year period. The planting will be concentrated within the Wellington catchment which will also improve water quality in the dam.

Attempts to increase the numbers of the State's faunal emblem received another boost with the release of 15 numbats into Collie's Battalling State forest. Intensive fox control in the area has also allowed woylies, bandicoots and chuditch a better chance of survival, and indicates that numbers are on the increase.

Perth Outdoors rocketed to the top of the charts with a major Perth bookstore chain listing the book as their number one non-fiction softcover bestseller.

A course designed to facilitate further ecotourism was held for tour operators at Perup, while the year ended on a happy note with the birth at Monkey Mia of a dolphin calf.

Wedgetailed eagle saved

AN INJURED wedgetailed eagle is on the road to recovery after being rescued by wildlife experts.

CALM staff captured the young male eagle in a paddock at Etipup, near Katanning, on Christmas Eve, after a report from a member of the public.

They were surprised to find one of its wings had been clipped and a leather collar had been fitted to one leg.

"It appears someone tried to keep the bird as a pet or train it for falconry and released it when it became too difficult to handle or care for," CALM's Acting District Manager Mal Graham said.

"Left to fend for itself, the bird was doomed to a

lingering death from starvation, as it was unable to hunt for food," he said.

"There was also the possibility of the leg collar becoming entangled and trapping the bird."

Under the Wildlife Conservation Act, it is illegal to keep birds of prey or train them for falconry. Offenders can be fined up to \$10 000.

Local CALM employee Brad Bourke cared for the bird for several days and then delivered it to the Eagles Heritage Wildlife Centre at Margaret River. The bird will be released into the wild once it has fully recovered.

Eagles were once classed as vermin but are now given legal protection.



Goldfields regional manager Ian Kealley. Photo by Fiona Kealley

Ian Kealley has three in a row

by Grahame Rowland

TO ACHIEVE a good community profile in a region covering nearly one-third of the State takes a lot of effort. Goldfields Regional Manager, Ian Kealley, has achieved well-deserved recognition from the Kalgoorlie-Boulder Toastmasters Club with his nomination for Communicator of the Year Award.

Ian said although the award was only in its fourth year, for him to receive a third consecutive nomination was a tremendous reflection on a great Regional team.

"I cannot stress enough that work successes are due to a team effort. While I may get the recognition they are equally deserving as any accolades belong to the whole team," he said.

The nominations are made by the local media and are awarded to people who have communicated effectively with the community.

The Region extends over 77 million hectares with CALM nature reserves accounting for nearly 10 per cent. When combined with the diversity of roles and activities undertaken, it would be easy to be intimidated by the task of keeping the

public informed. However, Ian said the Region had developed good relations with the pastoral and Aboriginal communities as well as the people living in the area's larger towns.

"CALM is readily identified by the public and our role is well understood, but there is still room to improve the people's understanding of the Department."

He said his task was easier as he had been in charge of the Region since the inception of CALM.

"Having been with CALM since amalgamation I've been intimately involved in establishing the Goldfields Region. During that time the staff have increased from six to 14 so I have a head start in knowing most of the history and developments."

"Also, having lived in the area for a total of nine years means I am reasonably well-known, which inevitably means the media tend to focus on me. But this gives me an advantage when it comes to passing on information about the Department's activities."

Rare plant find

A PLANT species that has not been collected for more than 90 years was rediscovered last month by CALM botanist Greg Keighery.

It was while undertaking surveys for the Urban Environmental Audit that Greg found the rare sedge *Tetralix australiensis* in remnant bushland east of Mundijong.

"The sedge was the last species in the metropolitan area that was still presumed to be extinct, so it was an exciting find," said Greg.

"It had been collected only twice before - in 1898 at Cannington and in 1901 in Serpentine," he said.

"More than 1 000 plants were found in the area, a 'C' class reserve for the conservation of flora."

"There are probably four reasons why *Tetralix australiensis* had not been collected for such a long time."

"It flowers in early summer and only after a fire the previous summer, it has small, insignificant flowers, and it grows with another sedge that looks similar and has a similar flowering period."

Because it was presumed extinct, the species is now automatically declared rare under the Wildlife Conservation Act.



Gary Davidson, left, and Pat Tate get on top of the job of building the championship headquarters. Photo by courtesy Harvey Reporter

CALM-care for canoeists

CALM staff played a significant part in the success of a canoeing competition when some of Australia's top canoeists visited Harvey in January.

The canoeists were pitting their skills against each other in the International and Australian Slalom and Wildwater Championships.

The Championships were so named to attract overseas competitors during the northern hemisphere winter off-season.

In preparation for the event held on the Harvey River below Stirling Dam, CALM's 930 loader was used to remove large hazardous rocks from the river bed.

These rocks were then used to help create safety eddies along the river edge for dismantled paddlers.

The different eddies and drops along the course were named with signs

by Nevin Wittber

provided by CALM Harvey's sign workshop.

Harvey's building team of reserves management assistant Gary Davidson and carpenter Pat Tate constructed a shelter on site for use as the headquarters and nerve centre of the event.

The handsome structure, built with funds from the South West Development Authority, was much appreciated by event officials, who look forward to using it again at future events.

CALM was the target of a great deal of praise in the press from event organisers and the local shire who commended us on our cooperation, support and input into the planning of the event.

So keep Harvey highlighted on your map for future excitement of a watery kind!

Giant tadpoles of Mount Elvire

by Andy Chapman

MOUNT Elvire is a pastoral lease 300 km north-west of Kalgoorlie in CALM's Goldfields Region.

It was purchased in 1990 for sandalwood conservation and regeneration as well as conservation of flora and fauna, particularly of arid eucalypt woodlands and chenopod lake frontage shrublands.

During some recent biological work on the lease, wildlife officer Sean Hazeldon and I had cause one hot day to inspect a small but fairly deep pool on a granite outcrop which had been modified to make a small dam.

Sean claimed that the tadpoles here were nearly 10 cm long!

Now I am known as a sceptical sort so I made an appropriately disbelieving

remark; but Sean stuck to his story.

To settle the matter I produced a ruler and we plunged into the water to cool off and measure tadpoles.

Sure enough, we collected eight tadpoles that ranged between 85 and 97 mm in length, the heaviest weighing 19 grams.

From their bizarre appearance with eyes on top of their heads it appeared they belonged to the genus *Cyclorana* or water-holding frogs and these in particular were almost certainly *Cyclorana platycephalus*.

According to the WA Museum, gigantism in tadpoles is uncommon but

not unknown, with available information suggesting that 75 mm is the maximum length in this species.

In another case, a tadpole of the genus *Neobatrachus* found in a farm dam near Narrogin measured 153 mm and weighed 22 grams!

There are two possible explanations for this phenomenon; a thyroid gland malfunction, and a more interesting ecological one.

Arid-adapted frogs have tadpoles which metamorphose very quickly due to the transitory nature of inland waters.

If the life of these waters is extended artificially, as is the case here, and there is an abundant food supply, it is possible that the tadpoles just continue to grow and 'forget' to turn into frogs.



Giant tadpoles! Don't kiss one of these when it grows up. It might turn into more 'handsome prince' than you bargained for. Photo by Andy Chapman

Cubs collar Pixie

by Verna Costello

PIXIE, a young female numbat, is sporting a brand, spanking new collar, thanks to the First York Cubs and their recent fund-raising effort that resulted in a cheque for \$150 being sent to CALM.

The collar is a radio-tracking collar and Pixie is wearing it as part of the project to reintroduce numbats into Tutanning Nature Reserve, east of Pingelly.

Pixie and her brother, Norton, were born in January, 1992 to Monique, one of the female numbats moved from Dryandra to Tutanning in December 1991.

Senior research scientist Tony Friend said that the Tutanning project was still in its early stages.

"Numbats became extinct there in the early 1980s," Tony said.

"Since 1984, fox-baiting has been carried out monthly, resulting in a great increase in numbers of native mammals, including woylies, tammar

and brushtail possums.

"Mallee fowl and brush wallabies, too, are now being seen there for the first time in many years.

"We plan to visit Tutanning soon to try to locate Pixie who should have moved from her mother's area by now to set up her own home range and produced a litter of her own.

"And that's something I'm looking forward to reporting to the First York Cubs whose hard work raising the money, and generosity in donating it is so highly commendable."

According to Louise Severson (mother of Tim who is one of the cubs), the boys worked very hard at fundraising.

"They sought sponsorship for, and took part in a 'trek-about', conducted a 'bottles and cans' drive, and recycled plastic bottles, bags, milk cartons

and cans," Louise said.

"You name it - they made something out of it and sold it at the York Agricultural Show where the cubs had a stall.

"Their cub-leader Debra Paris also insisted they generate the ideas themselves for the saleable items that they then made from the junk.

"So, for example, milk cartons were miraculously transformed into seedling pots, toy boats and tip trucks.

"Plastic bottles became watering cans and what couldn't be converted into something useful was used to build the ugliest 'plastic monster' you ever saw, two metres long by one-and-a-half metres high.

"The boys, whose ages range between 7 and 10, proved they could be resourceful and they certainly worked very hard - we were so proud of them," Louise said.

Pixie and her 'minders' at CALM would certainly agree.



Rear left to right: Brad Daw, Trevor Walley, Bob Cooper and Ian Herford. Front: Bob Hunter and Campbell Cornish (both kneeling) and David Gough. Photo by Peter Bindon

Learning the old ways

by David Gough

ON a pleasant weekend in late December, CALM Wildlife Officers Trevor Walley and Brad Daw from Como, Planning Officer Ian Herford from Albany, and I took part in a new course offered by the Western Australian Museum, in conjunction with Bob Cooper Outdoor Education.

The course aims to introduce people to the innovative technologies used by Nyoongar Aborigines in the manufacture of artefacts.

Using a hands-on approach, participants manufactured a set of quality hunting and foraging tools using traditional methods.

This was very much a pilot course and CALM staff, together with some of Bob Cooper's assistants, were put through their paces to see exactly what could be accomplished in a weekend with a group of

people who had little or no woodworking or craft experience.

Peter Bindon, from the WA Museum's Anthropology Department, demonstrated each step in the manufacture of the individual artefacts, and he made it look very easy. But after much patience and perseverance, we were soon proud possessors of our own set of hunting and foraging tools.

We all agreed that the most important lesson learned from the course was that the often-considered primitive ways of the Aboriginal people were as 'high tech' (or possibly more so) than those of today.

For example, the technique used to fasten a barb onto a spear is not unlike modern-day fibre-glassing.

After the spear point and barb have each been

carved, the barb is bound onto the point with sinews from a kangaroo tail and then waterproofed and 'glued' with a mixture of resin from the stem of the blackboy, charcoal and kangaroo droppings, the latter providing the fibre to help the resin bind.

When set, this mixture is in fact stronger than many modern glues. In many aboriginal cultures around the world, stones were bound to sticks to form axes. Here in WA, the stones were glued to the stick to form a 'kodjer' or axe.

The same technique was used to make a 'tarp' knife, which had a similar cutting action to a modern serrated tomato knife.

A small lump of the resin was put onto one side of a short stick, a little wider than a pencil, and small flakes of rock with razor sharp edges were inserted in a straight line along the length of the

resin.

Other techniques learned at the course included the use of fire to straighten sticks for spears and digging sticks, fire hardening of wood, making stone flakes, and greasing wooden tools with animal fat to prevent cracking as they dry.

At the end of a highly enjoyable and enlightening weekend, we each took away with us something physical and something spiritual from the Aboriginal culture.

The pilot course was a great success and the next will be held on the weekend of 6-7 March 1993. Anyone interested in taking part in one of the courses (particularly those involved in education or interpretation) should contact Peter Bindon at the WA Museum on (09) 328 4411, or Bob Cooper on (09) 377 1767 for more details.



Reprieve for a magpie mum

WILDLIFE officer Trevor Walley tells a heart-warming tale of an Edgewater woman, driven to 'maggie-murder', but relenting at the last minute.

It seems she was tired of a mother magpie harrassing her and her family so applied for and received a licence to take dangerous fauna.

CALM staff thoughtfully included the bird in the brochure *How to Live with Magpies* when sending her the licence.

She was so impressed with the brochure that - in her own words - "I decided to let the poor over-protective mother live - providing she behaves herself in future!"

Obviously, she is a committed conservationist, as she also returned the brochure so it could be re-used.

ered to be one of the most endangered plants in Western Australia.

Late in 1992, Andrew and Sue engaged the services of volunteers from the Western Australian Native Orchid Study and Conservation Group (WANOSCG) to accompany them on the weekend trip and uncover the full extent of the plant's range.

Despite the cold, wet weather that had intensified during the previous two days of field work, an enthusiastic group of 33 WANOSCG members met at the edge of Watheroo National Park.

It was discovered during the meeting that earlier in the week several members had found a population of the rare orchid on a nature reserve some nine kilometres further north.

Survey work at the reserve revealed a large population of more than

20 000 plants in several kilometres of suitable habitat, indicating that the conservation status of the species was much safer than previously thought.

Sunday saw a highly productive visit to a reserve south of Cataby where new populations of two other declared rare flora species were found.

They were, the dwarf pea *Ptychosema pusillum*, previously known from a single population further south outside the Moora district, and *Drakaea elastica*, a rare hammer orchid otherwise known only from a few small populations south of Perth.

This brought the number of known declared rare flora in the Moora District to 59.

The joint effort on the part of volunteers and CALM staff was voted extremely successful and highly enjoyable for all who took part.

More rare spider orchids found

SEVERAL new populations of the declared rare crested spider orchid (*Caladenia cristata*) have been found near Watheroo National Park.

These were surveyed during a weekend trip organised by CALM botanist Andrew Brown of the WA Threatened Species and Communities Unit (WATSCU) and CALM research scientist Sue Patrick.

The trip was a follow-up on an expedition in September 1991, when Andrew and Sue discovered new populations of the orchid while conducting field work for the Moora District Rare Flora Management Plan.

They were located on a nature reserve near Watheroo National Park.

The species was previously known from just a few small populations beside salt lakes further east, and was therefore consid-

Rockhopper penguins

by Carolyn Thomson

A ROCKHOPPER penguin from the sub-Antarctic, which stranded on the Western Australian coast, has been returned to the ocean.

The bird was released into the waters off Albany, where it should easily be able to find the currents to take it home.

CALM wildlife officer Peter Collins said the penguin was one of two rockhoppers picked up on the south coast last month.

The other died from wounds it received before being found. CALM wildlife officers believe it was attacked by a fox or dog.

by Grahame Rowland

Science and to gain promotion within CALM.

After three years with CALM she is described by her workmates as modest and unobtrusive - "the real quiet achiever", according to one.

Most of her work involves maintaining nature reserves and the arboretum, but she also occasionally assists visiting researchers in tasks including pit trapping and flora collection.

On one recent excursion to a reserve she slipped on a rock, landing on her arm and causing the muscle to tear away from the bone.

The injury was a double blow, not only because of the pain and inconvenience, but also because it prevented her from taking her place in the State team for the water polo tournament in Victoria.

Despite her disappointment over missing the trip, Sharon has taken a philosophical attitude about the setback, saying only time will tell whether she can get back in the team next year.

As well as working full-time and studying part-time, Sharon is in the pool five nights a week, either playing water polo, training, or coaching the Region's top young swimmers.

Who says country life is quiet and restful?

Both birds were cared for by a wildlife rescue group at Denmark.

"Rockhopper penguins occasionally visit our shores after losing their way, but no more than a few are found each year," Peter said.

"They are usually exhausted and starving after their long journey and would undoubtedly die without expert care."

Rockhopper penguins are much larger than the local penguins and are usually distinguished by

their bright yellow crests. The birds hop with great agility over rocks with feet together and jump into the sea feet first, instead of diving like other penguins.

Peter said the release of the penguin was just one example of the many marine animals rescued by CALM and local wildlife carers.

"Marine mammals such as whales and sealions, seabirds such as petrels and marine turtles regularly strand on our coastline," he said.

"Anyone who finds such animals in trouble should immediately contact CALM."



After the graduation ceremony (left to right) Paul Butters, course coordinator Wendy Fahey, Alex Rogers and Tony Brandis.
Photo by Mark Pittavino

Purnululu Aboriginal rangers graduate

PAUL Butters and Alex Rogers from Purnululu National Park are the first Aboriginal rangers in CALM to gain a Certificate in Lands, Parks and Wildlife Management.

The pair graduated at the end of last year in a ceremony at the Katherine Open College of TAFE.

Obstacles overcome

Since joining the Department in the middle of 1988, they had to overcome more than their fair share of obstacles to achieve their certificates.

The remote park is 350 kilometres from the East Kimberley district office and is accessible only by four-wheel drive vehicle.

No phone, no fax

East Kimberley district manager Mark Pittavino said when Paul and Alex started, the park had no telephone or fax, no accommodation or training

By Grahame Rowland

venue and no other permanent staff.

"Not only that, but the local training officer's federally funded contract expired the following year," he said.

"With Perth 3 500 kilometres away and with the lack of facilities, there were quite a few difficulties for Alex and Paul in completing the TAFE certificate the other rangers do.

Alternative course

"Completion of that course not only provides relevant skills and knowledge, but also allows for career progression, so we had to find an alternative course.

"The solution came from CALM's Training Officer Tony Brandis."

Tony said: "We had heard the college at Katherine was contemplat-

ing a similar course for the Conservation Commission rangers in the Territory.

"I contacted the college and told them about our TAFE course.

Permission gained

"They then got permission to use it and modified it for tropical conditions."

Like the TAFE course, the Katherine course has both theory and practical components.

Alex and Paul completed the theory by a combination of external study and by attendance at the college for four blocks of four weeks.

The practical component was completed through CALM in-service courses.

Paul and Alex were selected for the training program by the Purnululu Aboriginal Corporation who manage the park in conjunction with CALM.

The Corporation provided invaluable support to both of them during their

studies and assisted with their training in Aboriginal cultural issues relating to the park.

Mark said he was particularly impressed with the dedication shown by both officers in gaining their certificates.

"Given all the difficulties it is a credit to both that they have stuck with the training program.

Valuable contribution

Both Paul and Alex are now making a valuable contribution to the management of the park and other areas," he said.

"Praise must go to the course organisers, but most of all it is a positive statement about the District and the Department.

"Paul and Alex received great support from fellow staff as well as a lot of assistance from outside the District."

Both Mark and Tony were on hand at Katherine to see Paul and Alex receive their certificates.

Successful pilot course paves way for another

by Lotte Lent

ENTHUSIASTIC and positive responses recorded in an evaluation of CALM's Dryandra Woodland Ecology Course have resulted in another course being arranged for May 28 to 30.

Held last November, the weekend pilot course was attended by 19 people from a wide range of occupations. They included a carpenter, a lawyer, a tour operator and several teachers.

Environmental delights included radio-tracking numbats, spotlighting brushtail possums, woylies, brush wallabies and tawny frogmouths as well as trapping a mardo and a red-tailed phascogale.

The course was led by CALM research scientist Tony Friend, ably assisted by technical officer Neil Thomas, and featuring an enthusiastic selection of Narrogin District and Wheatbelt regional staff.

A barbecue kicked off activities on the Friday night and later, at Irabina, Dryandra's field study centre, senior forester (and barbecue-chef extraordinaire) Steve Gorton welcomed the group to the Narrogin District.

He explained the history and management of mallet plantations and

trap-laying, led by Neil.

After dinner, planning officer Anthony Sutton explained the planning process and his part in drafting the Dryandra Management Plan.

The group then took part in a hair-raising role-playing game designed to demonstrate the complexities of management planning.

The result was an hilarious theatrical performance complete with props and riotous group presentations.

Sunday brought warm weather and a leisurely bushwalk straight into the path of a dragon lizard, which allowed itself to be examined and photographed.

Morning trap-checking complete, Tony presented the final section of the course on numbat ecology, foxes, fauna and '1080' poison.

The course finished after lunch with the evaluation and a group photograph.

All funds collected have been placed in a Dryandra Trust Fund account earmarked for further interpretation, education and research.

Anyone interested in more details, including evaluation results, please call interpretation and community education officer Lotte Lent on 09 364 0729.

Goodwill exchange

BLOODY dingin (cold) was Helmi's reaction to a particularly chilly spell during his recent visit to Western Australia last spring.

Helmi, the tourism development officer - Banyuwangi Region, and Kurung, the chief of natural resources, conservation station - Malang, hail from the National Park Service in East Java and visited CALM for two weeks as part of a sister-state exchange program.

As guests of Swan Region, Wildlife Research Centre and Environmental Protection Branch, our

visitors covered a large area, from Jurien Bay to Pemberton and a range of topics: catchment management, logging, mining, rare flora protection, recreation developments, avifauna surveys, chuditch collaring and, thanks to our resident expert Jim Lane, the finer points of sheep dog trials!

This was the second visit by Indonesian managers to WA.

In 1991, Susetyo, the project officer of Indonesia's Bromo Tengger Semeru National Park, visited us and, as part of the exchange, Frank Batini visited five national

parks in east Java during May last year. These parks ranged from volcanic peaks, and lowland tropical rainforest to savannah.

In an area the size of the south-west of WA live 33 million people, yet a considerable area has been set aside as production forest, protection forest or national park.

All developed areas are intensively used but protection of the national parks is a major priority.

Small parks of about 25 000 ha may have over 50 staff rostered to protect the park on a 24-hour seven-day week basis.

Mammal conservation course a first for CALM

CALM has run its first accredited mammal conservation course for District staff.

The course was run at the Maxon Farm Field Centre, near the Batalling Forest block, east of Collie.

Course coordinators John Skillen, Keith Morris, Kim Williams, Rob Brazell and Peter Moore aimed at putting together a course that taught CALM staff the skills required to prepare and implement a district fauna management plan.

To pass the course, a district fauna management plan will have to be produced within 12 months.

by Keith Morris and Peter Moore

Roger Underwood opened the course and outlined to the participants the need for such a course and emphasised the important role that District staff have in fauna conservation programs.

Lectures by CALM staff, the Agricultural Protection Board and WA Museum staff, combined with field demonstrations, showed the participants how to plan and carry out fauna surveys.

The course covered trapping and spotlighting

techniques, mammal handling and identification, and data recording and analysis.

Applied fauna management techniques, such as fox baiting, radio-tracking and the role of reintroduction programs, were demonstrated and discussed.

Legislative aspects of wildlife conservation were also covered.

The course was targeted at mammal conservation because it is this group, in particular the medium-sized mammals, that have declined most since European settlement and are in the most need of assistance.

However, some of the

skills learnt are also applicable to wider fauna surveys.

The forests are now the last refuge for several species of mammal so it was thought appropriate to invite forest district staff to the course in the first instance.

The course was considered to be a success by both organisers and participants and will be repeated later this year.

Interest in the course has been shown by CALM staff outside the forest districts and by other agencies such as the Agricultural Protection Board and Alcoa of Australia.

How the chuditch got its spots

by Trevor Walley

THIS is a story from the Dreamtime when animals were half human (super-human), and the chuditch was married to the emu.

One day the chuditch went away hunting, as men often do, and the emu stayed at the camp gathering berries, as women often do.

While the chuditch was away, along came the possum, who fancied the emu, and tried to entice her away, which he failed to do - so

before he left, he marked her beak with ochre.

When the chuditch returned he noticed the ochre mark and, in a fit of rage, built a fire and threw the emu in it.

The fire burnt her wings so badly that she was unable to fly and to this day emus cannot fly.

Meanwhile, the chuditch left the camp to track

down the possum. Eventually he came upon the possum's camp, but before he could spear him the chuditch was ambushed and speared in the sides.

If you look at a chuditch or its picture, you can see the spear marks.

You will also find that the possum now lives high up in tree hollows and comes out only at night to avoid any chuditch bent on revenge.