

CALM NEWS

Print post approved PP665002/00001

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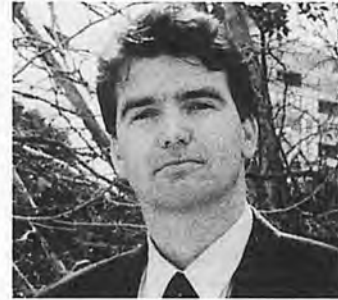
AUGUST 1995



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A vision for value



BVR Furniture's Les Brooker with CALM's Timber Marketing Manager Terry Jones and Environment Minister Peter Foss admire the distinctive grain in a marri table. To the right rear is a 'Welsh' dresser, also made from marri. Photo by Ross Swanborough

WESTERN Australia's timber industry is making big gains in value adding to native timbers through downstream processing.

Since the new long-term sawlog sales contracts with companies were signed early last year, the WA sawmilling industry is ahead of its obligations under the Forest Management Plan to add value to at least 50 per cent of the jarrah sawlog resource by 1997. The industry's value adding average is more than 51 per cent for jarrah sawlogs.

The gains made with jarrah are being recognised by the market and the value-add-

ing techniques are now being applied to other native timbers, such as karri and marri.

Research by CALM in consultation with two local furniture manufacturers has achieved remarkable results in using karri and marri to produce a range of furniture products that may have world-wide appeal.

This not only will increase the value of our native hardwoods, it will replace timbers that currently are imported and create more jobs in the timber processing industries.

It also will give the furniture industry greater choice and flexibility in using native hardwoods which until now have been used

mainly in the construction, or wood pulp industry.

Environment Minister Peter Foss recently unveiled a range of furniture produced from karri and marri by BVR Furniture of O'Connor and Jensen Jarrah of Busselton. The timber was dried by CALM's Wood Utilisation Research Centre at Harvey.

The furniture included dining room tables and chairs, coffee tables, 'Welsh' dressers and outdoor settings.

"Karri has long been renowned as a great structural timber because of its high strength, but difficulties with seasoning, machining and gluing has meant the manufactur-

ing industry has largely overlooked it as a timber for fine furniture and other uses," Mr Foss said.

"Marri has good strength and finishing properties, but because it is a bloodwood with extensive gum veins and imperfections, it has not gained wide acceptance among furniture manufacturers. This is despite the fact some of these imperfections add character to the beautiful golden tones of the timber.

"However, a CALM team led by Dr Graeme Siemon at the Wood Utilisation Research Centre now is overcoming these problems.

"The work has involved investigating the conditions needed to kiln dry the various timber dimensions used by the industry, the adhesives that will provide strong, long-lasting glue joints, and the dressing, sanding and finishing techniques for the dried timber."

CALM is now establishing a special karri and marri network. The network is being co-ordinated by CALM's timber utilisation marketing manager Terry Jones and will include people involved in the timber and furniture industry who want to develop strategic market opportunities for karri and marri.

◆ Continued on page 2

CALM celebrates Aboriginal and Islander Week

by Penny Walsh

CALM marked National Aboriginal and Islander Week 1995 with a week-long display in Forrest Place, Perth.

Along with staff from other government departments, Aboriginal agencies and community groups, Trevor Walley, Maxine Chi, Noel Nannup, Naomi Ogilvie and Neila Penny were on hand to provide information and first hand experience of how their work and their culture interrelate.

As well as demonstrating the many ways CALM seeks to reflect Aboriginal heritage in its day-to-day activities, they unearthed a great little money spinner — do-it-yourself badge making.

It seems the idea of setting up the office badge making machine on-site, and supplying Aboriginal themes and paints and pencils for decoration, proved a winner with the kids.

The badges promoted Nyoongar Aboriginal Dreaming stories about the chuditch, echidna, blue tongue lizard and emu. Children were encouraged to colour in their badges and given handouts of the stories relating to these animals.

While the aim wasn't really to make money through badge sales, the activity certainly generated some interest. CALM was one of the most popular exhibitors, and next year the organisers plan to give the Department more space in which to work.

Maxine and Trevor said afterwards that the week was a great success.

"Having the marquee set up in Forrest Place, and bringing everyone together was an excellent idea. It allowed Aboriginal people to have maximum positive exposure during Aboriginal & Islander week, with a focus right in the centre of Perth," said Maxine.

"The atmosphere created was one of great celebration and social interaction, with a real sense of pride."

◆ Continued on page 2



Several years ago I wrote an article in this column in which I was complimentary to 'CALM staff'. I was somewhat miffed to receive an anonymous note severely reprimanding me for ignoring the contribution of all those employees covered AWU. Of course when I write or speak about 'CALM staff' I mean everybody in the Department. The anonymous writer has assumed that I was using the term 'staff' like British officers did when they used to run India.

I was annoyed by the letter - but in retrospect I had some sympathy for the writer because I believe we sometimes do say and write things in a way that promotes a 'them and us' type approach. I believe that the 'them and us' approach to management is one of the principal reasons why Australia becomes so uncompetitive in the post war years.

That is not to say we shouldn't have vigorous disagreements within CALM and while I believe in consultation, I also believe that managers have to make decisions - sometimes unpopular ones. I also believe that it is natural and not counter-productive to have groups of people within the Department - either formal industrial groups or informal associations - provided that these organisations are committed to the Department.

One 'grouping' in CALM that I believe deserves special recognition for their commitment to CALM, and their preparedness to respond positively to the quite radical changes in their working environment, are those people in CALM who belong to the AWU - that is our 'AWU staff'. Both they and their union have not only been supportive, but also innovative in their response to the need to make CALM more efficient.

I was very pleased that their efforts were recognised when Alan Scott and I took the certified agreement covering AWU staff to the Cabinet Sub-Committee on Labour Relations for approval. We came out of the meeting with a higher pay increase than when we went in because the Minister for Labour Relations and the Minister for Finance were very keen to acknowledge the positive contribution of the AWU staff to the change process that is going on in the public sector.

The agreement is a great platform for the development of further innovative programs in CALM which will enable us to retain our core AWU staff workforce and provide the sources of external funding so that we can remedy our budget problems. The agreement in particular gives us greater flexibility to develop local working arrangements such as the 'woodshed' at Dwellingup and the tree planting programs in the Central Forest Region.

In addition to the agreement, I am very keen to provide a greater range of opportunities to AWU staff by better exploiting the career range that has been put in place but has not been used. Specifically I would like to provide the opportunity for AWU staff to be promoted to a higher grade without having to become an overseer.

A number of AWU staff have complained to me that the current system doesn't provide incentive for those people who are prepared to undergo training and undertake special jobs within the Department. I believe the creation of what could be loosely called a 'leading hand' grading, together with providing opportunities for training in a wide variety of areas, will rectify this deficiency. This is not to say that the overseer position will be diluted. Quite the contrary. I hope we will be able, over time, to reward overseers more for the excellent job they are doing, but obviously there is a limit to the number of overseers we can appoint.

We are very fortunate to have the AWU group in our Department. With the changes that I have discussed above, I believe that we will be giving them the opportunity to make an even greater contribution than they are now.

Dr Syd Shea, Executive Director



Wildlife officer Trevor Walley looks on while daughter Helen operates the badge-making machine. With them is Charmaine Champion. Photo by Penny Walsh

Aboriginal and Islander Week

Continued from page 1

Special events were held throughout the week, and Trevor estimated that thousands of people would have made their way into the marquee to see what was on display.

"WA was the focus State this year, which means there were some high profile Aborigines in attendance, including Charles Perkins and Lois O'Donohue, National Chairperson of the Aboriginal and Torres Strait Islander Commission

(ATSIC).

"I think it was good that CALM had a presence in the marquee—to show that we are involved in the Aboriginal scene here in WA," Trevor said.

Both Maxine and Trevor agreed that having a hands-on activity was much better than just giving out written material on CALM to the adults.

"We wanted to get people involved and give them the opportunity to be creative. It was amazing to see

the variety of designs and colours they came up with for their badges."

The aim of National Aboriginal and Islander Week 1995 was to create an awareness, recognition and understanding of Aboriginal society and culture. In so doing, bridge the gap of understanding and respect between Aboriginal and other Australian people.

Maxine Chi and Trevor Walley say they look forward to being involved again next year.

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

FOR SALE

Bradford Gold Insulation Batts 19 packs of 8 batts 4.5 square metre coverage per pack R2.5 insulation rating \$25 per pack Phone Robyn or Barb at Dwell/up on 538 1105.

Black poly pipe 50mm x 2.9mm x 100m rolls. One and a half rolls available \$150 the lot. Phone Robyn or Barb on 538 1105.

Canon NP3725 photocopier In good working order \$1500. Phone Robyn or Barb on 538 1105.

Compaq Contura CX25 (486DX), great screen, fast, active matrix colour, 210 MB H. disk, 12 MB RAM, carry case. Will run Windows 95 nicely; \$2100 ONO. Ph: Jack Kinnear at Woodvale 405 5137.

Two great bargains: Norton Backup (V.2.2) and Norton Antivirus (V.3.0.). Unopened, still in shrink-wrap. \$150 for both! (\$500 RRP). Ph: Jack Kinnear at Woodvale 405 5137.

SURPLUS EQUIPMENT

The items listed below (and located at Manjimup) are offered to CALM Branches. Removal and transport will be the responsibility of the receiver. Contact CALM science and Information Branch, Manjimup Research Centre for details (Jo Elliott or

John Neal) on 097 71 7985.

Furniture and equipment

- ◆ 1 x 3 drawer steel frame jarrah veneer desk 740mm x 900 mm x 1500 mm
- ◆ 2 x black vinyl-covered swivel chairs
- ◆ 1 x table trolley 810mm x 1140mm x 840mm
- ◆ 2 x acoustic printer hoods (beige) - (1 600mm x 800mm x 750mm) (1 x 400mm x 700mm x 1500mm)
- ◆ 2 x printer tables on castors - (1 x 720mm x 750mm x 900mm beige) (1 x 700mm x 900mm x 810mm grey)
- ◆ 1 x chrome glass-topped TV trolley 600mm x 600mm x 450mm
- ◆ 1 x 4 drawer filing cabinet (shelves collapsed) grey
- ◆ 1 x pipe-frame roofrack to suit 2 tonne flatbed truck
- ◆ 1 x Milford cargo barrier to suit 1989 Holden Jackaroo 4wd station wagon
- ◆ 1 x tubular steel roofrack to suit 1989 Holden Jackaroo 4wd station wagon

WANTED

One second-hand fax machine. Contact Don Herbertson on 015 993 068 or CALM Dwellingup or Bunbury.

...LETTERS...LETTERS...LETTERS...LETTERS...LETTERS...LETTERS...LETTERS...LETTERS...

The following was sent to the President of the Shire of Shark Bay and a copy sent to CALM.

Dear Sir,
Reference cats in the townships of Denham and Monkey Mia.

Would your Shire, in conjunction with CALM consider the following:

1. All cats in these areas to be registered and to carry a suitable tag, at no cost to owners.
2. Any cat required for breeding purposes to be registered as such with a registration fee of, say, \$50.
3. Any cat found to be without a tag to be destroyed.
4. All cats not registered for breeding purposes be sterilised and this be appropriately marked on their tags.

This sterilisation program to be funded by Shire and CALM, and at no cost to the owner.

This could be done by bringing a vet into the town for a short time.

Such a program as this, I feel, would help control the further spread of feral cats and help Project Eden.

I would like this conservation measure to the one being implemented in Kalgoorlie, where they are endeavouring to conserve water by offering all householders a free service of installing water-saving devices.

If a project such as this could be arranged it could be a 'first' for Australia, and I am sure other areas would follow. As we all know, cats are a major threat to our native fauna.

Yours faithfully
Allen S. Wood
AUGUSTA WA
To CALM South Coastal Region Manager

Dear Sir,
At the AGM of the Denmark Bush Fire Advisory Committee on Monday 29 May 1995, it was resolved to forward a letter of thanks to your office.

Assistance given by officers and crews from your region has been greatly appreciated over the last fire season.

The protective burns carried out in State Forest and Reserves has gone a long way towards strategic

fire protection and prevention within the Shire of Denmark. Council, local residents and brigade officers/members can breathe a little easier during high fire risk periods knowing that this work has been carried out.

All would concede, I think, that there is still a large threat. However, work carried out by your Department has reduced that threat greatly.

I would also like to thank you on behalf of the Denmark Volunteer Fire Services for the assistance given at wildfires within our Shire.

The professionalism shown by your officers and crews has set a good example to our firefighters.

The co-operation has been exemplary and although we all wish that such emergencies never arose, I trust this standard of co-operation will continue in the future.

Please pass on our thanks and appreciation to the officers and crews concerned.

Yours faithfully,
P Durtanovich
Shire Clerk
Shire of Denmark

Readers may recall a letter that appeared in CALM NEWS April-May 1995 in which Mr John Luk

of Geraldton queried the date 1822 that appeared on a sign at Brockman Sawpit. The first settlers in Western Australia did not arrive until 1826 when the Amity anchored in King George Sound. Others arrived at Garden Island in the Parmelia in 1829. CALM Bunbury's Russell Smith has responded to Mr Luk's inquiry as follows:

This date (1822) is obviously a mistake and should read 1862 which is when Edward Beverley Brockman built his house nearby on the Warren River. Edward Brockman brought his new bride Charlotte Bussell to the newly built Warren House in February 1863. This house is still standing and is owned by a descendant.

A vision for value

Continued from page 1

CALM Executive Director Dr Syd Shea said that a great deal of co-operative effort between CALM and BVR Furniture had gone into the production of kiln-dried marri for furniture timber.

"Three years ago, BVR Furniture began scouring the South West in search of select grade marri for furniture, and in the process created a network of millers prepared to saw marri," Dr Shea said.

"Until then, they had manufactured furniture from jarrah and imported oaks and ash.

"By developing a green, sawn marri supply, they took what was widely regarded as largely unusable timber and value added their skills and expertise,

to produce fine quality furniture that caters to the middle and upper end of the market.

"Marri is a light-coloured hardwood that takes stain particularly well, which enhances its ability to compete favourably with the American and Tasmanian oaks.

"Discoloured and gum-veined, feature-grade marri also compares well with Baltic and knotty pine, as a character timber for furniture, cupboard doors and panelling.

"Perhaps the most gratifying outcome is that CALM continues to play a vital role in BVR's successful use of a local timber to produce a top quality product, while creating employment for local people."

CALM NEWS — AUGUST 1995

Managing Editor: Ron Kawallak

Editors: Verna Costello, Nigel Higgs

Contributing Editor: David Gough

Design, Layout and Production: Sandra Van Brugge

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

Story deadline for CALM NEWS is the 10th of the month preceding the month of issue. Printed by Lamb Print.

PRINTED ON 100% RECYCLED PAPER



Young visitors absorbed in the wetlands component of Swan Region's Perth Outdoors shopping centre display. Photo by Larisa Vanstien

Wetlands wonderland

THE wonders of our coastal wetlands can now be explored in an exciting new interactive component of Swan Region's Perth Outdoors display.

The new wetland component is a 6m x 3m interactive display that is designed to involve children in the discovery of the many natural elements in a wetland.

It comprises a tunnel, exhibiting a cross-section through a lake. Outside the tunnel is a swamp, at one end of which a small pond has been created, complete with tree, reeds,

by Larisa Vanstien

live tadpoles, water beetles and aquatic spiders. Scattered throughout the display are replicas of frogs, lizards and ducks—the kind of creatures one would find in a wetland.

The new wetland display makes use of new and improved materials, that ensure its safety and strength; and allow easy transport and simple maintenance.

The 'Perth Outdoors' Shopping Centre Display

has been put together to encourage people to get outdoors and enjoy nature, to increase public awareness about CALM, and to promote awareness, appreciation and enthusiasm for our urban wildlife and their habitats.

The four major natural habitats of the area around Perth are woodlands, wetlands, forest and marine. These are represented in the display in a number of exciting ways—all designed to encourage people to discover, explore and appreciate their wonders.

The public has re-

sponded to the 'Perth Outdoors' display with interest, enthusiasm and obvious enjoyment, and it is proving to be a popular attraction for young and old.

The display is also an ideal avenue for CALM staff and volunteers to develop and practice skills in dealing with the public.

We invite all interested parties to come along and experience the display. For further details on display venues and dates, please contact Marie McDonald or myself on 390 5977.

Boost for nature-based tourism

PARRY Lagoons' natural residents played host to an interested group of onlookers recently at the opening of a new information shelter.

The Nature Reserve, 10 kilometres south-east of Wyndham, is home to more than 27 000 water birds, on a seasonal basis.

An estimated 10 000 plumed whistle ducks along with pelicans, magpie geese and various ibises, herons and other species were joined by a small crowd of interested nature lovers when Conservation and Land Management Department Executive Director Dr Syd Shea performed the official opening ceremony.

Dr Shea announced an injection of state and federal government funds to further protect the area with the construction of elevated walkways and bird hides and the supply of more interpretive detail.

CALM regional manager Chris Done said despite environmental changes brought on by the Lake Argyle dam, the area was still an important site for unusual or relatively rare birds such as garganey, freckled duck, painted snipe and zitting cisticola.

He said the Reserve also

encompassed an historic ruin of what used to be a radio telegraph station established in 1914.

"The station provided an important communication link for shipping, especially in war time," he said.

"It is hoped a future project can be set up to protect the ruins and provide interpretive information about them."

Mr Done said the area would also have been important for Aboriginal people, providing a wealth of 'life's essentials' to them.

He said the area was later used as a holding area for cattle on their drive to the Wyndham meat works, before it became a nature reserve in 1971.

Dr Shea also opened a townbased nature project on his visit to the north-west.

The Kununurra Arboretum, on Ivanhoe Road, has been developed on a plot of land formerly used as a dumping ground for spoil heaps from the main irrigation channel diggings.

CALM has now turned the area into a recreational 'tree park' open for visitors to wander through and learn about native and exotic species.

A 500-metre track winds its way through the park and CALM hopes to establish picnic areas among the trees, which have become a natural haven for birds.

Dr Shea said the arboretum was also important in terms of research values, giving scientists a natural crop to study with a view to expanding the current chic market of tree farming.

"There has been a reduction in supply of wood fibres, but the demand has increased," Dr Shea said.

"Kununurra has a huge potential to provide high quality hardwood crops, along with the South West region and the Goldfields.

"Things we, as foresters, never dreamed of are now possible and the tree crops can be integrated with agriculture."

Dr Shea said the arboretum would provide researchers with invaluable information about tree growth as well as catering for widespread public interest in nature-based tourism.

Chris Done tells us that the Australian Geographic Society also provided funds as part of its signposting project.



CALM's Executive Director Dr Syd Shea, flanked by Kimberley regional manager Chris Done, left, and East Kimberley District Manager Mark Pittavino. Story and photo by Rachel Thompson, courtesy Kimberley Echo

CALM makes access a priority

THE following is reprinted from the June 1995 issue of The Key, published by The Office of Equal Employment Opportunity.

"The Department of Conservation and Land Management (CALM) is a leading example of how using EEO principles provides the best results for clients, staff and the agency itself.

About four million people visit Western Australia's national parks each year, and the Department has focused on the need to provide access to those facilities for customers with disabilities.

It also carries that attitude into employing its staff.

Corporate Services Director John Byrne, who is profoundly deaf, said CALM had adopted the principle to employ the best person for the job.

"We make sure that promotion and employment are based on merit and we don't take irrelevant factors into consideration," Dr Byrne said.

"We make sure, where practicable, that we modify the work environment and work procedures for people with disabilities."

Dr Byrne said some

staff members initially had reservations when a person with disabilities was to work with them, but that soon disappeared into indifference.

"Nobody notices after a while," he said. "The disability becomes just one of their personal characteristics and those characteristics are irrelevant to their work capabilities."

As Director of Corporate Services, John Byrne is a senior manager who attends many high-level meetings.

He is accompanied by his personal assistant, Helen Ferguson, who types the discussion into a portable PC.

Dr Byrne can then respond.

He said he had never felt any resentment or resistance to that approach.

"It does come down to valuing the contribution all people can make.

"CALM knew that I was deaf when I was appointed to the job, and considered the value was there.

"Our Chief Executive, Syd Shea, believes people should be appointed on merit, and that attitude is reflected throughout our organisation."

Dr Byrne said decisions to modify a work environ-

ment were based on fairness, equity and costs.

"You can't justify spending hundreds of thousands on modifying accommodation for one person," he said.

"But that is an issue that has never come up. We have always been able to accommodate our people."

Modifications have been made at CALM headquarters in Como for one staff member who is quadriplegic.

When the staff member had to move to a new work area, renovations that were already underway included facilities to accommodate his needs.

Among other things, wider doors were built, and a toilet was designed to meet his needs.

As an interim measure, a portable toilet was hired while the work was completed.

And a pathway which leads from the section to the main building now provides easy access for a wheelchair.

"It is much cheaper to install these facilities when something is being built rather than trying to alter existing structures," Dr Byrne said.

An initiative for a blind employee has been to set

up a work station which provides isolation from the public when she is on duty, but allows sighted employees to interact at other times.

Office procedures in another branch were redesigned to assist an employee who has an intellectual disability.

Equally important to CALM is how it serves its customers who have disabilities.

The Department is currently developing a Disability Service Plan, and a key focus of the plan is to ensure that people with disabilities have access to its services and facilities.

CALM has made considerable progress in providing wheelchair-accessible facilities such as toilets, parking areas, and trails in national parks around the state.

One example of its success in this area has been the development of the Hills Forest Activity Centre which includes a wheelchair accessible activity centre and outdoor amphitheatre. Plans are being finalised for the development of a camping area which will also cater for the needs of people with disabilities.

CALM staff used a new technique to free the humpback whale entangled in craypot lines off Cervantes recently.

They attached inflatable buoys to the line that was wrapped around the animal's tail flukes.

The aim was to tire the animal sufficiently so officers could get near

enough to cut the line.

The whale was freed when the line snapped, and the wildlife officers followed it for more than half-an-hour to ensure it was unharmed.

Supervising wildlife officer Doug Coughran, who was incident controller for the operation, said the whale appeared to be swimming

strongly and was unscathed by its ordeal.

"It was the first time we had used the technique in WA, and we were very pleased with the way the operation went," Doug said.

"We had bought the buoys only two weeks before the incident and we hadn't expected to be using them so soon."

Women in Timber Conference

ABOUT 10 CALM staff were among 100 people to attend the inaugural *Women in Timber* conference hosted by the Forest Protection Society at the WACA in July.

Keynote speaker Robyn Loydell, National Director of the Forest Protection Society, said that women are the key to better communication on forest issues.

"For far too long the timber industry has been represented by grey-haired men in suits who have failed to convince the community at large that the timber industry is responding to community concerns over forests."

She went on to say that women and families are deeply affected by the controversy that rages in the community over forest issues, and yet their views are largely represented by men.

"Urban women in particular fail to relate to a consistently male-dominated viewpoint on forest issues.

"We have the best managed forests in the world, and a tremendous contribution to make to the Australian community environmentally, socially and economically.

"However, unless we communicate our message more effectively to the wider community, our future will still be at the



Enjoying a break in the *Women in Timber* Conference are, at rear, Therese Jones, Penny Walsh, Caroline (Liney) Bronx, Taryn Linning and Tammie Reid. At front is Donna Green, Annie Greig and Sharon Rouse. Photo courtesy Forest Protection Society.

mercy of opportunist politicians.

Other speakers at the conference were CALM's Tammie Reid, Community Education Officer at Dwellingup, and Donna Green, Silviculture Officer at Walpole.

In her presentation, Tammie looked at how CALM seeks to increase awareness, understanding and support for forest management in Western Australia.

She covered the set-up of the Department and its basic goals, strategies and

key areas of operation.

She also gave participants an idea of the complexities involved in working within an integrated management agency like CALM, and provided an intriguing hands-on tour of the eucalypt leaf.

Donna Green looked at the processes involved in preparing an area for timber harvesting, covering issues such as surrounding land use, exclusion zones, potential logging areas, apiary sites, landscape values, dieback status and harvesting methods.

She stressed that the most important element of preparation was public consultation, and explained how CALM invites community input and responds to concerns.

Another key aspect of the conference covered media relations and involved a panel of experts from radio, newspaper and TV, with each giving a run-down of their own medium, and providing tips on how the forestry industry could best use it.

Conference Chairperson and WA Coordinator

of the Forest Protection Society, Trish Townsend, said the inaugural *Women in Timber* conference was an outstanding success.

"The enthusiasm and commitment of the women who participated in this conference is tremendously encouraging and can only be good news for the future of the forest industries in Western Australia, and indeed the whole country."

It is planned that the *Women in Timber* conference will become an annual event.

How's your health?

THE way you hold your body determines what image you present to others and how quickly you age.

It is a fact that an unbalanced posture results in pain—usually in the neck and back region.

Warning signs to look out for include burning, tingling, tightness, stiffness or a numb sensation of the muscles.

The way we sit, drive and perform common tasks such as carrying and lifting may cause painful muscles. This, in turn, may lead to muscle inflexibility and inactivity.

When the body is unbalanced a great deal of pressure is placed on the joints, causing them to become stiff, while the muscles weaken.

It is for this reason that you should listen to your body. "Comfortable" is not always the main criteria for back wellness.

If you feel comfortable, it may be you are in your habitual slouched posture.

Slouching when sitting puts a stress on the back joints which is 10 to 15 times greater than when lying down, so ensure you have a supportive chair and avoid sitting for long periods of time.

Be aware of how long you are sitting at your desk and try to get up at least

once every hour to stretch. If possible, alternate between sitting and walking, especially if the warning signs are evident.

It is important for you to step back and look objectively at how you use your body in work and play, and your posture during these activities.

Ask a colleague to give you feedback on how you sit and walk, or look at your standing posture in a full-length mirror.

Do you have a hunched back, rounded shoulders or forward-poking head.

An erect posture should be aligned without any exaggeration of the spinal curves.

Our lifestyle encourages us to keep our joints still, and only move through a limited range. However, we need a full range of movement to enable us to live the life that most of us want, with little discomfort or restriction.

Regular exercise will help increase the strength and flexibility of the abdomen, back and legs, that make up the key postural muscles.

An incorrect posture is a hidden danger, as the damage to the joints and muscles accumulates over many years.

So start preventing such effects now, well before you start feeling them.

Timber Advisory Centre opened

by Tammie Reid

A NEW and permanent CALM forest management display was unveiled in July by Environment Minister Peter Foss in the new Timber Advisory Centre (TAC) at HOME BASE EXPO in Wembley.

CALM's display was one of a number of timber industry displays unveiled at the Centre—a direct result of the Timber Promotion Council's decision to invest in a permanent timber products centre, that would inform and influence home makers, renovators and building professionals about the beauty and practicality of timber products.

The Council comprises representatives from the Forest Industries Federation (WA) (FIFWA).

The TAC is staffed by industry-trained specialists who will be available for public enquiries.

Forest Resources Marketing Manager Terry Jones said that more than 100 000 people were expected to visit and use the timber advisory service.

"This means CALM is able directly to market the sustainably and well-managed forest story to the end users of value-added timber products. The bottom line is about people feeling good

about using our native timbers," Terry said.

The display provides bursts of information and funfacts in the form of graphics and text, screened onto the wooden floor and submerged in a pond, as well as an information panel comprising large, medium density fibreboard icons.

Fine wood articles made of Goldfields timbers will be showcased and some of the Wood Utilisation Research Centre's innovations and projects are featured, such as the CALM solar-assisted timber kilns and the VALWOOD process and product. Marri and karri dining room suites have already generated a great deal of interest.

The Timber Promotion Council is keen to develop the potential for school and community group tours.

The HOME BASE EXPO already has an established reputation as a mecca for home makers and renovators.

The Master Builders' Association has a whole-of-industry advisory display on the first floor, and there is a 150-seat auditorium supported by cafe, catering and ample parking facilities.

The Wembley HOME BASE EXPO is located



Tammie Reid positions some of the perspex information panels in the pond, while Terry Jones, left, and John Davies of John Davies Design provide encouragement. Between them is a free-standing information panel. Photo by Verna Costello

at 55 Salvado Road, on the corner of Harbourne Street, where industry staff are available to answer enquiries from Monday to Saturday between 9am and 5pm; Thursday from 9am to

8pm; Sunday and public holidays from 10am to 5pm

Admission is free.



Photo by Judy Pitcher

Kristy shows experts how

PITTED against experienced Asian teams, where there is a long tradition of dragon boat racing, Kristy Brittain, pictured above, and the rest of her team won one trophy in the mixed open and one in the mixed corporate divisions of the World Dragon Boat International Regatta.

Teams competing at the regatta, which was held in Penang, came from Hong Kong, China, Singapore, Malaysia and Australia.

Kristy is a member of the Wood Utilisation

Research Centre team involved in VALWOOD production, and when she isn't gluing boards or dressing timber, she is out on the Leschenault Inlet paddling for the Worsley Aluminators Dragon Boat Club.

Kristy plans to continue paddling for the Worsley team this summer, and next year hopes to return with her team mates to Penang, where they and their dragon boat intend to 'breathe fire' on the competition to retain both titles.

Well done, Kristy and good luck next year.

CALM's tenth anniversary - looking back ... and forward ...

When the Forests Department became part of CALM in 1985, it brought with it a cadet field officer training tradition going back to 1917. It was a tradition that CALM continued for the first seven years of its existence, turning out first class cadets. Alan Byrne was their senior training officer during the last four of these seven years, and he is once again heavily involved with a new breed of field officer. Tammie Reid tells us a little of what has happened in the meantime, and writes about CALM's plans for these young people as the department heads into its second decade.

NEW blood, new people and new directions have reappeared in the wooden and slightly draughty halls of the Dwellingup cadet school.

In December 1991, after the final graduation ceremony of the in-service trained CALM field officers, the old forestry cadet school at Dwellingup closed its doors.

Although the old cadet school continued to be used for CALM in-service training, such as the live-in field engineering training program, the annual intake of CALM field officers ceased. The field officer training was taken up by Edith Cowan University in its Bachelor of Applied Science in Environmental Management degree.

This year has seen the first intake of the new breed of field officers, with 16 people being recruited and allocated to districts, mostly in the forest areas.

Alan Byrne, Human Resources Branch senior training officer has been responsible for designing and implementing their induction and training.

"Basically, we have a number of training modules that equip people with the knowledge and skills needed to begin working effectively in the field.

"For the first four weeks, I arranged specialist trainers like Bill Towie in forest resources, Alan Seymour in silviculture,



Trainee field officers select and mark trees with the giant 'H' for 'habitat'. They are, from left, Mark Virgo, Greg Evans, Rebecca Wolstenholme, Stuart Harrison, and in the foreground John Marshall. Photo by Tammie Reid

Stuart Hunter in First Aid, Tom Wood in Worksafe, and Mark Humble, Vern Rutherford and Bruce Telfer in four-wheel driving instruction.

"By the end of this train-

ing, I had a fair idea of each trainee's strengths and weaknesses, so they will return to their work centres and undergo on-the-job training in the skills in which they have

some need to improve.

"Later this year I've scheduled training in field engineering, fire management and chainsaw and axe maintenance and handling. I have

also programmed recreation planning and design, and law enforcement training for autumn 1996.

"The new recruits are an excellent bunch, keen to get

in and have a go, and eager to learn and produce quality results. I've really enjoyed the interaction with the group and wish each one of them a successful future with CALM."

Facing CALM's second decade with confidence

by Tammie Reid

FACING CALM's second decade is Rob Troeth—one of the 16 new staff members who have joined the department as field officers, or as Rob so aptly describes them, trainee natural resource managers.

He comes from a diverse background, having worked in the army, the police, the Western Australian Water Authority, Sci-Tech and the mining sector.

"I've always been a country man at heart, and I believe that working in CALM will provide a 'naturally' fulfilling future for me—it's something I've wanted to do for a long time," Rob said.

"A few years ago I was lucky enough to do some volunteer work for Wildlife Branch, as part of a student placement program, and I kept in contact with people in CALM in case any career opportunities came up ... and they did."

Rob is enthusiastic about his future with CALM:

"There's such a wide range to the work CALM does, and I visualise numerous opportunities for me to make a solid contribution," he says.

"I plan to work hard at learning and doing what's expected of me, and I expect the next two to three years will be about finding my place in the organisation. I'm operating on a 10-year plan, to make a go of it and to reassess my goals and ambitions after that."

At the moment Rob couldn't ask for a better placement:

"Walpole is a great place to start, the natural beauty, the public focus on forest management keeping everyone on their toes, and the level of support from CALM staff for Mark Virgo (the other new field officer—ex leading hand from the Goldfields Region) and myself is remarkable," he says.

"People have been welcoming, open, and happy to help us settle in and get to grips with the work that's expected of us.

"I've been impressed with the honesty and openness of CALM staff at the Dwellingup training centre, and I've been bowled over by their level of commitment to conservation and sound land management practices.

"It's also good to see the human face of CALM's activities, providing a balance to tertiary course theory.

"Just how well we field officers adapt to our new positions will depend largely on our ability to communicate. From day one we have been encouraged to communicate with others in the organisation, and beyond.

"All the new officers have tertiary qualifications in natural resource management, and we're all looking forward to working hard and making a noteworthy contribution to CALM's future," Rob said.



Trainee field officer Robert Troeth looks impressed by the tall timber at Fernhook Falls. Photo by Greg Mair

This Moon's not waning

ABOUT 20 staff from around the State enjoyed an evening of eating, sipping and reminiscing with Keith Moon at a recent dinner to farewell him into a busy retirement.

The dinner was organised by fellow rangers and was held at Mahogany Inn, where Keith is seen below, with his wife Joan opening his

farewell gift—a pewter mug.

Keith spent many years as a mobile ranger and was the first mobile ranger to complete a season in Purnululu National Park.

Later, he was resident ranger at William Bay National Park, and is well remembered by Denmark people for his energy and tireless work for the local community.

Keith later transferred to John Forrest National Park where once again he and Joan made many new friends in the Hills area.

They will soon move into their own home at Roleystone, where Keith will build extensions, between fishing trips to the north-west in winter, and to the south-west in summer.



Some of the Health and Fitness course participants sampling the healthy fare prepared by John Colquhoun. Photo by Donna Green.

Spouse health targeted

by John McKenzie

A recent Health and Fitness day at Pemberton saw wives of 18 CALM staff (and the mother of one staff member) listening to topics such as warming up before working out, back care, and watching a video—*Stress of Success*.

District Manager John Gillard said that it was vital to keep spouses well informed about health and fitness issues as, generally, they provided the main source of support for their partners.

"They can make or break a

husband or wife's efforts to become a fit and healthy member of CALM's workforce," John said.

"An understanding and supportive partner is particularly important during fire seasons, for example, when a husband or wife could be away from home for many hours, nights and sometimes days.

"At such physically and emotionally stressful times, encouraging a partner to take healthy

meals with them to the site of the fire, can be vital.

"By providing the Health and Fitness day, we were acknowledging the important contribution made by employees' spouses," John said.

Those taking part were impressed with the fitness testing provided by Linda Gilbert, and the healthy meal provided by John Colquhoun was greatly appreciated.

The participants also expressed keen interest in a follow-up Health and Fitness day next year.

Lane Poole Award goes to Birmingham

STUDYING major eucalyptus oil management and harvesting operations in Victoria and New South Wales is how Tim Birmingham plans to use his C E Lane Poole Memorial Trust Award.

Tim is a senior technical officer with the Plantations Group (formerly known as VATPAS) and 1995 winner of the study tour award, announced recently by CALM Executive Director Dr Syd Shea, who is also Chairman of Trustees of the C E Lane Poole Memorial Trust.

The award will allow Tim to observe operations that may be usefully applied to the Western Australian oil mallee project, currently being undertaken by CALM.

Tim will also visit melaleuca oil operations in New South Wales, which may provide considerable insights for local development.

He will also visit sugar cane harvesting and extraction operations in southern Queensland, as many aspects of this industry may have an application to eucalyptus oil production in this State.

Tim said that for eucalyptus oil production in Western Australia to be competitive on the international market, the industry must be developed by incorporating only the best ideas and technology.

"We must develop these ideas and technologies by evaluation of all related operations to which we can gain access," Tim said.

Principal research scientist John Bartle said that the project, which had attracted strong support among Wheatbelt farmers, aimed to develop a large-scale eucalyptus oil industry, based on mallee spe-

cies grown as dual purpose landcare and commercial tree crops by Wheatbelt farmers.

"The aim is to develop new low-priced outlets for the oil in industrial solvent markets, and to do this profitably it will be necessary to modernise technologies and operate on a large scale," John said.

Tim recently developed an oil mallee harvester, by modifying an old wheat header. (See April-May 1995 CALM NEWS).

The harvester has been used to cut many hundreds of mallee trees for the recent field days and to produce initial samples of oil for market development.

Work is now required to develop the optimum harvester design.

Factors to be considered include mobility, tolerance of ground surface conditions, width of cut, height of cut, type of cutting mechanism, transport of cut material, and effect of damage to leaf material, that is, the option of a clean-cut versus a mulch-type cut.

Work is also required with respect to planting design in relation to harvest, including plant spacing and hedge design, mallee root development and stability, and coppice growth after harvest.

Tim is hoping to gain useful information on all these aspects, while on his Lane Poole study tour.

He will compile a report on his findings within six months of his return from the tour.

The C E Lane Poole Memorial Trust was established to commemorate the work of former Conservator of Forests Charles Edward Lane Poole, and in particular, the connection between him and the late Thomas Cullity.



Pictured after the C E Lane Poole Award presentation ceremony for Tim Birmingham are Wesfi Chairman Denis Cullity, Tim, Don Keene and Principal Health and Safety Officer Tom Wood. Photo by Verma Costello.

The Trustees are Dr Shea, Denis Cullity, Chairman of Wesfi, and CALM principal health and safety officer Tom Wood.

The Trust provides financial assistance to CALM officers to participate in study tours that are relevant to their employment.

The Trust is funded by private donations, with Westralian Forest Industries

Limited the main donor.

Other donors have included Alcoa of Australia Limited, Australian Sandalwood Company Limited and the Institute of Foresters of Australia Incorporated.

The original intent of the award was to provide travel opportunities for Forest Act field staff, who had limited opportunities for interstate travel on duty.

Following the creation of CALM and the incorporation of the field staff in the public service, the eligibility criteria were broadened to include all CALM Public Service Act staff engaged in forest management activities.

Since 1981, fourteen CALM staff have received these awards to cover airfares and accommodation in the eastern states and New Zealand. In recent years,

the awards have been worth \$5 000 each.

The recipients produce reports on their findings, which are distributed within CALM and to a few organisations outside CALM.

Mike Cully was the 1994 award winner and visited the eastern states and New Zealand in March this year to look at pine and blue gum breeding operations.

Rock-wallabies share eco-tourism award

THE winners of this year's David Brand Tourism Award for the Environment were Neil and Rhonda McGregor who operate Yardie Creek Tours in Cape Range National Park.

Since 1990, the McGregors have been involved in collecting data for a CALM fox-control experiment that Woodvale Science and Information staff had implemented in collaboration with Frank Batini's Environmental Protection Branch and Exmouth District staff.

Once abundant throughout the whole of Cape Range, rock wallabies had become restricted to some gorges within the park and on Ningaloo Station south of the park.

Moreover, their numbers were few, probably because of predation by foxes, as previously demonstrated in the Wheatbelt.

Studies by research sci-

by Jack Kinnear

entist Dave Algar and now-retired senior technical officer Tom Leftwich, indicated that two baitings a year might be a sufficient and cost-effective practice to control foxes, thus enabling rock wallabies to increase.

This is where the McGregors have been making a vital contribution. They enter into a computer database all rock wallabies sighted during the course of their nature tours along Yardie Creek Gorge.

If our experimental two-baitings-a-year program worked according to plan, the McGregors would have recorded more rock wallabies each year, and this trend would be clearly evident from their database.

At first, the sightings steadily increased for the

three years following the implementation of twice-yearly baitings.

But then it became clear from the database that the 1994 sightings of rock wallabies were down; there was a mini-population crash as 30 per cent of the rock wallabies seen during 1993 went missing during the tourist off-season.

Fortunately, the decline was only temporary, as the trend throughout 1994 and 1995 has been upward.

We know the decline was real because of the quality of the data. This is because the line transect along Yardie Creek is so highly replicated—a statistician's dream.

The data, being so extensive, allows one to conclude with certainty that the population did increase following the introduction of fox control; what is equally certain is that there was a mini-crash—but why?

The evidence suggests that the six-month interval between baitings is too long. This lengthy interval allows foxes to re-invade and provides ample time for foxes to kill enough rock wallabies to reverse previous gains.

But this does not happen every year; bouts of predation can happen sporadically and there is no way to predict when such events will happen.

The solution is to increase the baiting frequency and thus remove offending foxes before they do too much damage.

Four baitings a year are now recommended. This is desirable, not only from a conservation viewpoint, but also for sound economic reasons.

A conspicuously abundant population of rock wallabies contributes to the tourism potential of the Exmouth region.

The tour along a spec-

tacular, picture postcard gorge is a memorable experience in itself, but even more so when one sees at close range infant rock wallabies peering out of pouches or snuggled up next to proud mums.

Neil and Rhonda readily concede that the presence of rock wallabies is one of the key attractions of their tour. It's good for business to have more rock wallabies about, and from CALM's viewpoint it's

also good conservation. This is eco-tourism at its best; an example of a government agency and the private sector having a common interest in promoting the welfare and abundance of wildlife.



A rock wallaby and her young. Photo courtesy Yardie Creek Tours

A Seville-ised conference

THE story of local community involvement in the Fitzgerald Biosphere Reserve was one of three Australian contributions to about 70 case studies presented at the recent International Conference on Biosphere Reserves in Seville, Spain.

Biosphere reserves, such as the Fitzgerald River National Park and surrounding areas, where local communities are striving for ecologically sustainable development, are becoming an increasingly promoted model for the

necessary balance between nature conservation and development.

The Seville Conference was the first major review of UNESCO's biosphere reserve program in more than 10 years. It should lead to a new action plan to take biosphere reserves into the 21st century and also to a new set of statutes to place such reserves on a more sound and coordinated footing as a true international network.

About 10 Australian delegates took part in the conference, which was at-

tended by 421 delegates from 102 countries.

Among them was CALM South Coast Regional Manager John Watson (Fitzgerald Biosphere Reserve).

The Australian delegation was led by Chief Executive Officer of The Australian Nature Conservation Agency (ANCA) and chairman of the Australian Working Group on Biosphere Reserves Dr Peter Bridgewater.

The preparation of the Fitzgerald Biosphere presentation was in itself

something of a community effort. John Watson prepared an initial draft of the paper, which was circulated widely, both within CALM and among people actively involved with the Fitzgerald Biosphere Reserve project. The paper was then modified in response to comments received.

About 60 colour slides were shown and, once again, these came from various sources both within and outside CALM.

The paper received a great deal of interest, with time having to be extended to cater for the large number of questions.

Numerous direct contacts were made with John over the following few days of the conference, which should help to further confirm and gain support at the national and international level for CALM's work in the Fitzgerald River National Park and surrounding areas of the Biosphere Reserve, as well as recognise local community involvement.

John financed his own trip to the Conference, with the Australian National Commission for UNESCO part-funding his air travel expenses.



John Watson fields questions from the floor at the International Conference on Biosphere Reserves in Seville. Photo by Charo Sevilla Jimenez

We impress Mark

THE dedicated attitude of staff throughout CALM was one of the first impressions that struck Mark Neilson when he took up his position recently as the new Manager Financial Services.

Mark is responsible for the restructured Finance, Engineering Services, Financial Systems and Applications groups, which form part of John Byrne's Corporate Services Division.

Based at Como, Mark says he is "getting out of the glass tower as much as possible to meet staff and management to find out more about their financial management requirements.

"I think we have good systems and good people in the financial area, and while I've heard a few people comment adversely on the ORACLE system, I think the system is a good starting point," Mark said.

"Other departments are only now switching away from the old government accounting system (GAS), and many of the bigger departments are choosing ORACLE—the system we put in four years ago.

"So we have a good head start, but we need to fine-tune the way we are using the system, especially with the implementation of accrual accounting—a major project that we've now started in earnest.

"Based on the results of a customer survey that we sent out in July, we are now framing our priorities for the next year.

"Initial results show that staff throughout CALM want more training in the use of systems and the internal controls that we must follow.

"The survey also showed that our over-riding priority should be to



Story and photo by Verna Costello

way the system works.

Mark comes to CALM with a well-qualified and impressive accounting background in both the public and private sectors, which includes four years with Western Mining, four years with SECWA and three years with the City of Stirling.

He is a full member of the Australian Society of Certified Practising Accountants and is currently working part-time towards a Master of Accounting at the University of Western Australia.

Married to Gina, who has just finished a Ph.D. in English Literature, their weekends are taken up full time with developing a small vineyard in Gidgegannup, just north of Midland.

"I'm enjoying my work enormously, and am pleased to be working for an organisation like CALM, which makes such a positive contribution in the community."

Engineering their futures

STUDENTS from the Department of Environmental Engineering at the University of Western Australia took part in a field trip to a State forest block to examine interactions between engineering and the ecology.

They were able to see firsthand how scientific and engineering principles can be applied in design-

ing solutions to complex situations to prevent environmental problems.

The students visited a State forest block off Brookton Highway to observe forest logging practices.

They were met there by Peter Keppell, CALM District Manager for the area, who explained some of the principles involved in controlling dieback, a

fungal disease that attacks the roots of trees.

They were also told how CALM manages all native forests and, in doing so, maintains wildlife habitat.

The trip was part of the field component of a course in biological systems engineering, in which students learn about human impacts on ecological processes.

This is the first year

this third level unit has been offered and it gives students a greater knowledge of ways to avert some of the consequences of increasing development.

Environmental engineering is a new field, and the University of Western Australia was the first university in Australia to offer an undergraduate degree in it.

Bridal creeper is crept upon by determined volunteers

Moth trigger plants found

by Mike O'Donoghue



Volunteer Shirley Lam looks justifiably pleased with her efforts at the Boomerang Gorge busy bee. Shirley was accompanied by the First Como Sea Scouts to tackle the bridal creeper menace. Photo by Jill Vines

HOW would you like to spend a Sunday in the company of the 'Bee Gees?' (CALM's Boomerang Gorge volunteers).

Strictly speaking, they're CALM's Yanhep National Park volunteers, but they have a special interest in ridding the park's Boomerang Gorge of the dreaded and rampant bridal creeper.

Their dedication to the cause sees the volunteers, with families and friends, getting together for a busy bee each month, and while they work hard, they also find time to relax and socialise.

Bridal creeper is a vigorous climbing plant that thrives in the moist soils of the gorge, and if left unchecked, smothers native vegetation. It is spread mainly by small birds that eat the berries and then deposit the seeds in their droppings when they perch in nearby trees.

A recent busy bee saw volunteers from as far afield as Peppermint Grove working to tidy up the section of the Gorge from which the creeper was cleared in 1994. Shoots of the creeper coming up around rocks and from under logs, where the rhizomes (subterranean, root-like stems) were difficult to dig out, were targeted.

It was satisfying to notice that seedlings of some native plants that normally grow in the gorge were coming up in the areas that were cleared during last year's busy-bees.

The cleared site will be re-planted with native shrubs and ground covers that have been raised from cuttings and seedlings from healthy plants growing in less-affected sections of the gorge.

They were carefully collected and propagated in the park by Dave Pike, a member of the Yanhep National Park Advisory Committee, and members of the northern suburbs branch of the WA Wildflower Society.

Busy bees are held on the fourth Sunday of each month, starting at 9.30 am, at the Boomerang Gorge in Yanhep National Park.

Volunteers can bring sturdy tools and gloves. Tools must first be washed in a bleach solution to prevent foreign organisms being brought into the park.

CALM will waive entry fees for volunteers taking part in these busy bees.

Further information on this important project is available by contacting CALM's Yanhep National Park office on (09) 561 1004 or Jill Vines on 561 2177.

ANOTHER of the State's endangered flora species, the moth trigger plant, (*Stylidium scabridum*), was recently discovered by Swan Region's conservation officer Les Robson, in an area of State forest at Mundaring.

Les discovered eight populations of the moth triggerplant, consisting of more than 700 plants, within the Wandoo Conservation Park.

Les was quick to point out that the discovery of these plants was very much a team effort involving CALM Science and Information Division's principal research scientist David Coates and senior research scientist Sue Patrick.

David had organised a field excursion with specialist staff from Swan Region to familiarise them with the *Stylidium's* botanical features.

In addition, Sue had mentioned to Les that there had been a record of this plant growing in association with another of the State's rare flora species, *Verrauxia verreauxii*.

Les was familiar with the rare *Verrauxia*, having discovered 23 new populations in 1994.

Armed with detailed information about the characteristics of the plant and its preferred habitat, Les decided he would search an area of State forest which he knew contained populations of *Verrauxia verreauxii*.

To his surprise, he immediately located a substantial new population of the rare triggerplant growing in

association with the rare *Verrauxia*—a remarkable find indeed!

Les undertook further searches of the Park, in areas containing the *Verrauxia*, and located additional populations of the trigger plant.

Stylidium scabridum was one of the State's rarest wildflowers, known from only three sites in the Moora and Merredin Districts.

A total known population of only 60 plants meant that the species was considered to be very rare—and threatened—particularly as two populations occurred on a small road reserve and an unvested gravel reserve.

Les's discovery has considerably enhanced the conservation status of this species in the wild.

Following the above discoveries, Les has located 23 populations of this rare triggerplant, making a total of 31 new populations.

As a matter of interest, *Stylidium* gets its common name, triggerplant, because visiting insects trigger the release of its column, held back under tension.

This spring-like action deposits pollen on the visitor who, in turn, carries the pollen to another flower of the same species, thereby aiding pollination.

The status of this rare plant in the wild now appears to be secure, thanks largely to the dedicated efforts of Swan Region's conservation officer Les Robson.

Grand old lady of Monkey Mia dies

AN autopsy carried out on popular Monkey Mia dolphin Holey Fin has revealed she died as a result of a stingray barb.

The barb entered her lower right side, lodged in tissue surrounding her heart, and caused haemorrhaging and infection.

"She could have been carrying the barb for two or three weeks. That would

explain the noticeable deterioration in her health just before she died," said CALM Wildlife Officer Peter Lambert.

"There was little evidence of the sting from the outside of her body. The entry hole had almost closed up and there were no obvious lacerations," Peter said.

"The first we knew of it

was during the autopsy when we saw the barb protruding from the outer layer of her heart, with a track through the blubber layer and muscle tissue."

The stingray must have flicked its barbed tail with some force to bury it so deeply. The barb, which is covered in slimy tissue and can transfer venom into the

wound, doesn't usually break off inside the victim.

"We'll never know exactly how it happened, but it is certainly a very unusual cause of death," Peter said.

"The stingray uses its tail as a defence mechanism when disturbed; perhaps Holey Fin was playing with it, or brushed

against it near the ocean floor. It may just be a case of being in the wrong place at the wrong time."

CALM Gascoyne District Manager, Ron Shepherd said Holey Fin would be missed by everyone who had had the privilege of meeting her. Her trust and friendship with humans would always be remembered.

CALM-UWA venture studies water movement

TWO joint projects by CALM and the University of WA will help in managing Shark Bay's marine and coastal environment.

A Geographic Information System (GIS) has been established in conjunction with the University's Geography Department, and a water circulation model is being developed by the UWA Centre for Water Research.

Both projects were initiated by CALM's Midwest Region and are being co-ordinated by regional planning officer Andrew Hill.

The three-year GIS project began in 1994 and is being undertaken by PhD student, Eleanor Bruce.

"The project will com-

pile environmental, recreational and management information onto one computer database and enable managers to compare variables and identify conflicts and workable solutions," Andrew said.

"Our first priority has been to establish the coastline definition as a baseline and to input readily available data such as habitat details and seagrass and marine fauna distributions.

"Other data such as hydrology, (the study of decomposition of organisms by chemical reaction with water), bathymetry, (measurement of water depths), heritage sites and information on commercial and recreational uses may also be included," he said.

The water circulation

project will be undertaken by Masters degree student Murray Burling under the supervision of senior lecturer Chari Pattiararchi.

Andrew said of this project that extensive field surveys were being undertaken to collect data on the water movement, which causes the enormous variations in water temperature and salinity in Shark Bay.

"The computer model to be developed will be able to predict water movement in the area," he said.

"This will be very useful in assessing aquaculture projects and other developments that may impact on Shark Bay's World Heritage values."

The CALM/UWA water circulation project is being funded from a range of sources including

CALM's Midwest Region, private aquaculture proponents, grants secured by the Gascoyne Development Commission, and the Fisheries Department.

CALM Regional manager Greg Leaman believes the projects are particularly important, given the current scarcity of resources.

"The Midwest Region has identified tertiary institutions as a valuable means of getting relevant research undertaken in the region," Greg said.

"Access to recognised scientists, well-equipped facilities and enthusiastic postgraduate students has enabled the region to jointly undertake these projects.

"Without such partnerships, this valuable management research would not be achievable," he said.



Eleanor Bruce working on the Shark Bay GIS data. Photo by Andrew Hill