

CALM NEWS

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DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

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WESTERN AUSTRALIA

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New thrust in fight against dieback

THE State Government has announced a major new thrust in the fight against dieback in Western Australia.

Speaking in Albany at the World Conservation Union Conference today, Environment Minister Cheryl Edwardes said the new strategy followed a comprehensive assessment by CALM of the recommendations made by the WA Dieback Review Panel, and of public submissions made during the three-month public comment period following release of the review report.

Mrs Edwardes said dieback caused by the fungus *Phytophthora cinnamomi* presented a serious threat to the native vegetation of the South-West Land Division.

"As a result of this assessment, the Government will implement every one of the 33 recommendations made by the review panel," she said.

"As a priority, I will establish a Dieback Consultative Council with representatives from Government, industry, community and conservation groups."

The council's role will be to:

- further advise the Government on adopting the Dieback Review Panel's recommendations, and replace the existing dieback policy with one that focuses on delivering resources to the most valuable and protectable areas;
- convene committees of experts to report on specific technical and scientific matters, as required;
- advise the Minister on priorities for management and research, and identify institutions equipped to advance the knowledge and management of dieback;
- advise on funding sources and research management, including contributions from the non-Government sector;
- ensure new knowledge is made widely available through publication of reviews; and
- promote close liaison between planners, managers and researchers in Government, research institutions and the private sector.

Dr Owen Nichols, a consulting faunal ecologist, farmer and former environmental research manager in the private sector, will chair the council.

Mrs Edwardes said that CALM had already acted on a number of the review panel's recommendations.

A senior officer had been appointed dieback co-ordinator, and a number of task groups had been set up to deliver change.

Focus on cost-effectiveness

"The focus is on issues like developing more efficient and cost-effective methods of mapping dieback, refining hygiene strategies and extending the training and function of expert staff," the Minister said.

Another priority has been to establish a Phosphite on Team within CALM.

Phosphite is a relatively simple compound based on phosphorous that protects dieback-susceptible plants from *Phytophthora*. It is being used to protect rare plant species and communities that are under threat.

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Great fun was had by all when 13 child-sized native animals and 1,000 balloons, together with a 5-metre feral cat and a bilby celebrated Operation Western Shield at the Annual Fremantle Festival. (See page 3 for story and more pictures). Photo by Ernie McLintock.

Western Shield at world conference

WESTERN Australia has gained the attention of conservationists from around the world for the innovative project *Western Shield*—the world's biggest campaign against feral predators.

The project aims to save WA native mammal species on the brink of extinction by controlling the threat of foxes and feral cats. These introduced predators have contributed to the extinction of

by Mitzi Vance

10 native mammal species and threatened a further 31 animal species.

In Albany recently at the World Conservation Union Conference, Environment Minister Cheryl Edwardes said that in less than 18 months the *Western Shield* project had progressed in leaps and bounds with tremendous gains being made both in fox and cat

control and fauna rehabilitation.

"CALM has, through *Western Shield*, succeeded in controlling fox numbers in certain parts of the State resulting in a boost in threatened mammal species numbers," Mrs Edwardes said.

"Ten native mammal species have been reintroduced into areas they once roamed as a result of *Western Shield* fox control measure.

"The main strategy has been a comprehensive baiting program, run four times annually in conservation land across the State from as far north as Karratha to the inland Goldfields and Wheatbelt region, across to the west coast from Exmouth to Esperance.

"More than 770,000 baits are laid or aerially dropped each year with around 160,000 kilometres flown as part of *Western*

Shield's aerial baiting program—that is almost equal to flying around the world four times

"The baits contain the naturally occurring '1080' poison, found in the native plant genus *Gastrolobium* and though the poison is lethal to introduced animals, it is harmless to native animals who have co-evolved with the poison and have a high tolerance to it."

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CALM honoured in Premier's Public Sector Awards

CALM was highly commended at the recent 1997 Premier's Award for Public Sector Management for the innovative project *Western Shield*—the world's biggest campaign against feral predators.

The honour followed the submission of *Western Shield* in the 'Provision

for the future of Western Australia' category in the awards.

This category recognised outstanding achievement by agencies through initiatives, which provide for the future interests of WA.

Close contest

CALM was closely contested for the category

by Mitzi Vance

award by numerous other agencies, but succeeded in making the finals, where it was judged against five other finalists.

The Western Shield project went head to head with other worthy projects, including the Department of Commerce

and Trade's International Trade Relations Team, Family and Children's Services Best Start Program, Homeswest's Redevelopment Strategy and the Valuer-General's Office for the Government Asset Valuation Project.

Western Shield was nudged out by the South Metropolitan College of

TAFE, whose Aquaculture Development Unit seized prized honours.

This is the second year in a row that CALM has made the finals of the inaugural Premier's Awards for Public Sector Management. Last year it won the Premier's Award in the category of 'Provision of Services to Regional

Western Australia'.

The high commendation recognises the major achievements being made through *Western Shield* to conserve native wildlife.

In less than 18 months the project had progressed in leaps and bounds with tremendous results both in fox and cat control and fauna rehabilitation (see above story).

Western Shield is an ongoing commitment by CALM to ensure that native wildlife is saved for future generations, and receiving high commendation at the Premier's Awards signifies that the project is definitely on the right path to meeting this commitment. (See Environment Minister's letter on page 2)

Western Shield hits the streets of Fremantle

A GREAT deal of fun was had by all when *Western Shield* hit the streets in the form of a 5 x 3-metre feral cat and a 3 x 3-metre bilby float, as part of the Fremantle Festival's annual parade.

The unique float, with its massive creatures and abundance of eucalypt leaves and gum nuts, looked like a bush island amidst the people, cars and buildings of Fremantle.

Supporting the float were 13 child-sized native animals including a green-bellied frog, a possum, red-backed spider, joey kangaroo, cockatoo, platypus and owl.

To provide the animals with shade, were an adult-sized tree with an uncanny resemblance to CALM Marine Conservation Officer Jenny Cary, and a child-sized tree, not unlike Noel Nannup's daughter Allison.

Buzzing around the float were three drop-dead gorgeous-looking wood fairies and a handful of WA *Naturally* balloon distributors.

The main attractions however, were an adult-sized chuditch, a bilby and two, ferocious-looking foxes, one of

by Mitzi Vance

which looked remarkably like CALM Executive Director Dr Syd Shea.

With more than 1,000 *Western Shield* balloons to hand out, CALM Aboriginal Tourism and Training Officers Noel Nannup and Kevin Hill helped distribute the brightly coloured helium-filled balloons, that had small *Western Shield* information cards tied to them.

It was a long, frantic but fun-filled day for the 25-plus people who volunteered and participated in the parade, from children and adults in costumes to behind-the-scenes players like our fabulous and reliable balloon couriers—on foot—yes, well how else could 1,000 balloons be given out?

An indefatigable John Hunter deserves a gong for many hours' work, above the call of duty, as does West Kimberley district manager Allen Grosse, who commissioned Gwen Knox to create the giant cat and bilby. (Gwen also helped decorate the float.)

In the lead-up to the parade,



Wowing the crowd—Ferocious Fox, Basil Bilby and Charlie Chuditch (aka Sandra Chahal, Dorthe Hansen and Liz Pickett from The Hills Forest)

which started at 4.00 pm, the children's faces were painted to match their costumes, while the adult volunteers assembled and organised costumes, WA *Naturally* T-shirts and balloons.

All then traipsed down Henry Street from the CALM Fremantle offices to the parade starting point.

As you can guess it was quite a sight and judging by the number of people waving and beeping horns, we were a great hit.

Once the parade started, everyone got into the swing of things, with balloons given out right, left and centre and much waving to be done.

Cat-calls and fox cries were skilfully mimicked and projected by expert driver CALM

Marine Operations Officer George Watson who, in turn with the Executive Director (in disguise), took control of the float's PA system.

Charlie Chuditch and Basil Bilby were chased repeatedly by Ferocious Fox, as they sought to escape among the crowds.

An hour and fifteen minutes later, the parade came to a close, and all *Western Shield* participants climbed aboard the float and headed back, tired, happy and exuberant to the department's Freo offices.

There, refreshments were enjoyed while everyone regaled each other with their stories of the day.

More than 70,000 people turned out to watch the parade—that means 70,000



Wood fairies Tiffany Aberin and Carolyn Thomson.

people saw the CALM *Western Shield* float, not to mention the 1,000 information cards attached to *Western Shield* balloons.

This, coupled with the fun and enjoyment of all those involved, led to only one conclusion—a day that was a resounding success.



Guess who?



An array of native animals—above: Simon McAll, Katherine Shea, Benjamin Gough, Allison Nannup, Ella Kerr and Hannah McAll.

Right: Benjamin Gough and Sarah Shea hatch a plot, while Ryan Shea has a far-away look in his eye.

Left: The *Western Shield* float team traipsing through the streets of Fremantle to take its place in the parade.

All photos by Ernie McLintock/CALM



Director of Regional Services opts for consultancy role

IT would be impossible to outline all of my experiences during my 32 years in the public service—especially in the field of forestry and nature conservation—so I'll just take you through a few of the major episodes on the roller-coaster ride that I call 'my career'. It begins gently enough, but hang on to your hats!

I started off in pine forestry at Mount Gambier in South Australia, when I did practically all there is to do in pine forestry—and I thoroughly enjoyed it.

I also really liked the south-east of South Australia, which surprises many people because it's relatively flat and, like the Swan Coastal Plain, very sandy, but it's much greener through the summer.

In fact, it drizzles most of the time, as I recall, and I'm reminded that Perth has, without question, the very best climate of any I've ever lived in.

Marvellous mentors

I was very lucky to have Dick Woods as my first boss at Mount Gambier. He was a wonderful mentor and coach. There's nothing more anyone could ask of a boss when starting out in one's career than to have his kind of help.

I'm only sorry that, so far, I haven't had the chance to give young people the same degree of attention that Dick gave to me.

Eventually, however, I realised that it was time to move on.

I'd originally wanted to go to New Guinea, but by that stage it was becoming more difficult for Australians to get secure employment there.

I had also developed an interest in

working with Aboriginal people.

The truth is I really thought that I could make a contribution to their 'development' and so in 1969, Elizabeth, our baby daughter Julia and I went to Darwin.

The joke was on me!

The joke about wanting to help in the development of the Aborigines is that it turned out to be the reverse—they developed me!

The work in the Northern Territory was wide and varied, but there's a fundamental problem. The forests don't produce much timber.

There was a great fuss about this that eventually led to a House of Representatives Committee of Inquiry.

I was one of those who had real problems with the government's forestry policy, and I finally came to the conclusion that my days as a forester may have been over.

By this stage, Liz and I and our two little girls, Julia and Sarah, moved to Maningrida in Arnhemland, where I'd been invited to become the community forestry adviser.

Although our families were quite apprehensive because of health concerns and a lack of communications, we had two years there during which I feel I learnt everything there was to know about life.

Heavy toll on family life

It was at once an incredible and exciting time, but also one that was very tough on family life and it certainly took its toll on all of us.

Hard as it was, I wouldn't exchange that experience for anything, and we developed some great friendships with some of the most

tradition-oriented Aboriginal people in Australia.

The experience left me with an expert knowledge of Aboriginal fire use (on which I was able to publish quite a bit later), and reasonable fluency in one of the major languages of Western Arnhemland.

When we left Maningrida I'd had enough of the Northern Territory, but the emotional upheaval of leaving such wonderful people led me to think I should try working on a consultancy basis while settling back into life in Adelaide.

I had intended to set up a forestry contracting business in Adelaide, but thought that some consultancy work in Arnhemland might help ease the sadness of leaving Maningrida altogether.

Off to Canberra

But, almost immediately I was invited to apply for a job with the Australian National Parks and Wildlife Service, and very soon we were bound for Canberra, where for a year I was the project officer working on the establishment of Kakadu.

It's often been said that if you gain experience that's unique there'll eventually be a market for it—and believe it or not, twelve months later we were back in the Territory again, and another turbulent year—again enormously exciting, and again very hard on us as a family.

At once we were immersed in the implementation of a complex land management plan—the establishment of a big national park (where I was the first superintendent), coupled with recognition of Aboriginal land rights and the beginnings of the Ranger Uranium Mine.



Chris inspects a crop of *Stirlingia latifolia*, a species keenly sought by WA wildflower enthusiasts in Japan and Holland. Photo by Alan Briggs.

We lived in a caravan for most of 1979, but no sooner was our house built than another one of my mentors, Mike Hill, was promoted to Canberra, and I went back to Darwin into the project co-ordinator position that Mike had occupied.

Our youngest, Tim, was born a few months later—so being in Darwin was good from that point of view.

That job gradually expanded and eventually included responsibilities for the Commonwealth nature reserves and Uluru National Park (Ayers Rock).

In our last year in Darwin I seemed never to be home, so when I suggested moving to Perth my family chorused a resounding "yes!"

So, in the middle of a Perth heat-wave in February 1985, I was interviewed for CALM's Director of National Parks position.

It was a lot cooler when I got back to the Darwin monsoon, and I was relieved to start work in Perth (as one of CALM's first directors) in balmy April weather.

CALM policies development

My initial responsibilities were the development of policies for the State's national parks, recreation on CALM-managed lands, and the overseeing of special projects.

One of these projects was the establishment of Purnululu (the Bungle Bungles) National Park and the Aboriginal ranger-training scheme at Millstream.

Another was the complete revamping of the ranger career structure.

The hours in those days were particularly long, and I always felt that I was sailing into uncharted waters.

An atlas at my elbow

Not surprisingly The Traveller's Atlas was the most frequently consulted book in my bookshelves, as I struggled to find my way around Western Australia and get to know a lot of new people.

I was determined to travel often and extensively, because I believe there's no substitute for being on the spot when it comes to knowing exactly what's happening.

Now, I probably know more of the State than most Western Australians.

But I was lucky—and enormously impressed—by the goodwill and friendliness shown towards such 'a new kid on the block' by staff at all levels.

Because of my previous experi-

ence, I received many referrals on mining issues and the involvement of Aboriginal people in all areas of CALM's operations.

This continued throughout my career with the Department, and among my most satisfying experiences is seeing how many CALM officers are involved with Aboriginal groups and issues nowadays.

In my first year in particular, staff would ring me and say 'There's a group of blackfellows here. What do I do?'

Now, everybody expects this as normal part of everyday activities, and the futures of Aboriginal people and nature conservation become increasingly and inextricably intertwined.

Tackling toughest tasks

On reflection, I think I was always happy to tackle tough jobs that other people balked at, or maybe lacked the confidence to do.

I've also been very lucky on two fronts, first in Liz who was always supportive and prepared to live in some difficult situations.

Secondly, I had a number of wonderful mentors: Dick at Mount Gambier, Mike in Darwin, and I shouldn't forget Hugh Waring at the CSIRO in Canberra.

Hugh provided me with wonderful support and sound advice while I worked at the CSIRO after Cyclone Tracy.

Many people have observed that CALM is not an appropriate acronym, and I've certainly had some exciting moments as well as difficult tasks to tackle, but I guess everything is relative! Certainly, by comparison with our earlier years, life in CALM has been calm.

Without doubt, I would value more than anything the work we've done in providing facilities in parks and reserves.

I'd like to take some of the credit at least for the assembling of a highly competent team of people in our Recreation and Landscape area, but then there are also all the other people who work around that team to provide the great visitor experiences in our natural areas.

World leader status

Another highly satisfying experience was putting together the beginnings of our market surveys of visitors, which has now blossomed into 'world leader' status.

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Chris at his desk, keeping the seat warm for his successor. Photo by Verna Costello.

National medals honour firefighters' long service



Environment Minister Cheryl Edwards presents National Medal and Clasps to CALM's fire crew and staff in the Central Forest Region recently. Mrs Edwards is pictured with Regional Manager Bob Chandler; Executive Director Syd Shea, fire crews Ed Haley, Keith Pears, Fred Myers, Bevan Foster and Brian Fitzgerald, and Bunbury MLA Ian Osborne. Photo by Paul Webster.

MORE than 3,000 years of accumulated dedicated service to protecting Western Australians from the devastation of bushfires will be rewarded this year with presentations of National Medals to CALM fire crews, officers and support staff.

Environment Minister Cheryl Edwards recently presented National Medals and Clasps to 47 CALM staff from the Central Forest Region.

A further 100 awards will be made to other staff from

CALM's Southern and Swan forest regions, the Wheatbelt, Goldfields and Mid-West regions.

The Medal is awarded for 15 years service; clasps are presented for each subsequent 10 years service.

Several CALM staff who were recognised today had given more than 33 years service to the Department's fire management and protection operations.

These included Brian Fitzgerald, Bevan Forster,

Keith Pears and Fred Myers from the Blackwood District and Edward Hally from South West Capes.

Mrs Edwards said the awards were given to members of groups such as defence forces, police, ambulance services and fire agencies involved in protecting human life and community values.

Risking personal safety

"Consequently, a feature of the groups eligible for the National Medal is that their

work requires great skill, risks to personal safety, dedication and, perhaps most importantly, long-term commitment," she said.

Mrs Edwards said there was an expectation in the community that lives and property would be protected from natural- and human-caused disasters by well-trained and disciplined emergency forces.

"However, CALM fire crews do far more than suppress wildfires," she said.

"They also are involved in

the Department's other activities such as nature conservation, wildlife management, tourism and recreation, timber harvesting and plantation development.

"The community therefore benefits from this wide range of expertise because CALM has integrated fire management with its other important business activities."

Mrs Edwards said CALM's preventative and protection measures also contributed significantly to the State's econo-

my in terms of low levels of damage to natural resources and the replacement of service infrastructures and private property when inevitable wildfires occur.

She said CALM had worked with other State and Commonwealth agencies to develop a more integrated and systematic approach to managing smoke from prescribed burns. This was in line with the Government's policy to ensure WA had a high standard of air quality.



CALM at Garden City birthday celebration

AS part of Garden City Shopping Centre's 25th Birthday Celebrations, Swan Region displays officer Michael Phillips and CALM volunteer wildlife carer Isobel Hughes were invited to go 'Totally Wild'.

Strictly speaking, they were asked to help out with a Native Animal Display, to support the appearance of Queensland rangers Tim and Stacey from Channel Ten's 'Totally Wild' television program.

Tim and Stacey did two stage shows a day, which involved playing some of their favourite games with the children. These included Enviroquiz, The Python Squeeze, Act Like An Aussie Animal and What am I?

Michael and Isobel gave talks on some of the animals on display and the reason these animals were in captivity.

They included grey kangaroo joeys, brushtail possums, quenda, quokka, pygmy possum, long neck turtle, baby emus and a redtailed black cockatoo.

The animals came from Roleystone Wildlife Hospital and had been sick, injured or orphaned.

Displays like this give CALM staff and wildlife carers an ideal opportunity to speak to members of the public about our wildlife.

They also give the public a rare opportunity to see some of our native animals up close and learn more about what CALM does to conserve them.

For the two rangers this was their second visit to WA. Eighteen months ago Michael and Isobel were here with a similar program at Midland Gate Shopping Centre.

If you would like to know more about Perth Outdoors interactive shopping centre displays contact Michael on (08) 9390 5977.

Michael Phillips (centre) introduces Queensland rangers Tim and Stacey and two young guests to the local wildlife. Photo by Jordan Scerri.

Accessibility for all at The Hills Forest campsite

A FLURRY of activity from Mundaring District forester Jamie Ridley and his team at Mundaring District heralded last-minute preparations for the opening of The Hills Forest Campground.

They made sure that everything looked spick and span to welcome special guests 1996 Paralympian of the Year Louise Sauvage and Darling Range MLA John Day, who jointly opened the Campground.

CALM Executive Director Dr Syd Shea was there early to welcome guests to the facility, which is unique in that it is the only universally accessible campground associated with an activity centre in Australia.

With generous sponsorship from Alcoa of Australia, the Lotteries Commission through the Gordon Reid Foundation, and ACROD, the campground is designed for use by people wishing to camp in tents in a bush setting but who want the luxury of proximity to services such as toilets, hot showers, car parking, electric cooking

by Kate Baxter

facilities and easy access to activities.

Sites and facilities are designed to be low key and unobtrusive, and offer a range of combinations—individual, paired or group—for up to 45 campers.

Campsite facilities include a firewood barbecue, wood box and fire ring, furniture and tent site with soft sawdust base.

Open layout

The central cookhouse provides cooking facilities on electric barbecues, with sink, hot water and power points in an open layout to provide a social area.

As John Day MLA said, "All Western Australians should have the opportunity to pursue and enjoy outdoor activities in our natural environment, in a safe and comfortable way."

"This new camping facility will ensure this, as it means that the more than 30,000 Western Australians with disabilities will now be able to go bush."

Guests were welcomed



MLA John Day, Louise Sauvage, Charlie Chuditch and Stev Slavin check out the new campground. Photo by Michael Palmer, courtesy The Hills Gazette.

with billy tea and damper and everyone had the opportunity to toast marshmallows over the fire

before being entertained by the Koorabudda Aboriginal Dance Group with Dreamtime stories,

songs and dance.

CALM Financial Services Branch senior finance officer Stefan

Dumitro's son, James was among the students from the Sir David Brand Special School and

Walliston Primary School, who enjoyed tapping sticks in time to the didgeridoo.

New manager settles in at Yanchep Inn



Yanchep Inn manager Brenda Greening with Yanchep National Park senior ranger Ron Shimmon. Photo by Kate Hassall

by Kate Hassall

A BREATH of fresh air has swept through Yanchep Inn with the completion of renovations and the appointment of Manager, Brenda Greening.

Brenda Greening comes to Yanchep Inn from a hospitality-hotel service background and is keen to establish the Inn as a popular visitor destination within Yanchep National Park.

"I welcome all CALM staff to visit the Inn for a meal or drink and see the changes that have been made," Brenda said.

The Inn is open from 10.00 am to 10.00 pm daily (except Sunday when 9.00 pm is closing time).

The chef provides a new and innovative style of food at the Inn for lunch and evening meals. Lunch is served in the bistro daily, with a chalkboard menu adding to the casual dining setting.

An a la carte menu is available for evening meals in the Tudor restaurant Friday to Sunday. Brenda also manages the kiosk, providing another means for refreshment sales within the park.

Coffee and Devonshire teas are served throughout the day.

Brenda's team also cater for functions such as weddings, Melbourne Cup lunch, Christmas parties, engagement and cocktail parties. This provides an ideal setting in the

heart of Yanchep National Park overlooking Loch McNess.

Yanchep National Park's Senior Ranger, Ron Shimmon, has received positive feedback from the public regarding the high quality of meals and visitor service provided at the Inn.

Overnight accommodation is provided in the motel units, with CALM currently considering options to renovate the upstairs accommodation at the Inn. The future for the Inn is exciting!

Renovations to the downstairs section of the Inn have recently been completed. The Inn is recognised as having considerable heritage value, enabling the endorsement of a \$300,000 improvement program funded by CALM.

The funding has been used to renovate the kitchen and bar service areas at the Inn, improve electrical wiring and water proofing as well as the external painting of the building.

For further information regarding the upgrading works, contact Colin Ingram, Park Policy and Tourism Branch on (08) 9334 0207.

For functions, weddings and meal information and bookings, please telephone Brenda at the Inn on (08) 9561 1001 or fax her on (08) 9561 2467.

New service helps farmers increase cash crop profits

A NEW service that will assist farmers integrate commercial tree crops with their existing farming operations was launched at a Busselton dairy farm recently.

The Farm Forestry Advisory Service is a joint initiative between CALM and Agriculture WA, that provides farmers in the high rainfall zone from

Dandaragan to Esperance with information and advice on combining commercial tree growing with agriculture.

By providing up-to-date information, the service will help farmers learn about farm forestry, and help new farm foresters to get started.

Existing tree growers also can get advice on tree

management and marketing.

The new service is available through a number of CALM and Agriculture WA offices.

It is funded by both Departments and the Federal Department of Primary Industries Farm Forestry Program.

Environment Minister Cheryl Edwardes said the

service was the latest step in a range of measures the State Government had implemented to stimulate the development of tree crops on private land.

Fastest growing

Mrs Edwardes said farm forestry was probably the fastest-growing agricultural enterprise in WA.

"Fifteen years ago, the

area of tree crops on cleared farmland was just a few hundred hectares," she said.

"Today, it's more than 70,000 ha, and growing at a rate of 20,000 ha a year."

Mrs Edwardes said this growth would continue to accelerate as new tree planting initiatives such as CALM's maritime pines project came on stream.

It was forecast that within a few years, annual new plantings of tree crops on WA farms would be more than 40,000 ha.

"Conservative estimates predict that by 2010, there'll be 350,000 ha of hardwood and softwood tree crops on WA farms," she said.

"If we accept \$3,000 a hectare as a baseline

establishment and management cost over the life of tree crops, this will represent an investment of more than \$1 billion in an industry that can sustainably return \$500 million a year.

"And that will make a big dent in the nation's annual current account deficit of \$2 billion in the wood fibre trade."

Science and Information Division restructured

THE Science and Information Division is in the process of restructuring and a new, more flexible and responsive division will be the result.

Science and Information Director, Neil Burrows, said the science in the Division had been reorganised to reflect a task-force approach based around projects triggered by immediate or strategic scientific issues which have high priority in CALM.

"We'll be doing more consulting—with staff in Nature

by Penny Walsh

Conservation, Forest Resources and Tourism and Recreation—for feedback on current SID research and requests for new work. The whole operation will be more project-based, and section managers will be replaced with project leaders," he said.

The three new groups that now make up Science and Information are: Biological Information Group (formerly

Bio-resources Group) headed by Neville Marchant; Biodiversity Conservation Group (formerly Bio-conservation Group) headed by Keith Morris; and Forest and Tree Crops Group (formerly Sustainable Resources Group) headed by John McGrath. The Science Services Group has been disbanded but its Information Science section has become part of the Biological Information Group.

"Our emphasis will be on making SID knowledge and

technological advances relevant, timely and responsive to the needs of the department."

Project teams will be assembled to deal with immediate or strategic issues that have a high priority, and when the objectives have been achieved—including publication and transfer of information—the project will be terminated and the scientists directed into other high priority projects.

"CALM is driven by science. The purpose of this restructure is to ensure that the

division producing much of that science is responsive to the needs of the department. Our research must be applied, practical, scientifically sound and transferable to operations."

As well as building and strengthening its links with other divisions of CALM, Science and Information will look to reinforce its connections with outside organisations such as CSIRO, Agriculture WA, and Western Australia's universities.

"We need to build on CALM

Science and Information's reputation as a first class research agency within the State, national and international communities. We have world-class scientists producing world-class research and it's something to be proud of."

A Science and Information Management Council (SIMC) made up of Neville Marchant, Keith Morris, John McGrath, Ian Abbott and Neil Burrows will be responsible for focusing the science and setting research directions for the new SID.

Rare plants' regrowth out of Quairading wildfire



Matchstick banksia (*B. cuneata*) seedling regenerating after fire. (See also foot of page 11.)
Photo by Greg Durell.

THE wildfire that swept through remnant bushland close to the Wheatbelt town of Quairading in January 1996, causing widespread damage to the flora and fauna, may prove to be a blessing in disguise for at least three species of Declared Rare Flora (DRF).

They are: the matchstick banksia (*Banksia cuneata*), the stilted tinsel lily (*Calectasia arnoldii* ms) and the Quairading jacksonia (*Jacksonia* sp. Quairading).

The loss of one of the largest-known populations of the matchstick banksia was considered a significant event by the Matchstick Banksia Recovery Team, because it has provided an opportunity to study the role of fire on the regeneration of this species within an area of natural bushland.

As with most fires affecting native flora species, there is the potential for regeneration, provided the bushland is large enough to reduce external influences such as impact of faster-growing weed species, and feral animals.

by Jackie Nichol

Fortunately, the Quairading bush remnant is large enough and contains largely infertile, sandy soil, making weed establishment difficult.

Narrogin District operations officer Greg Durell said that although the full effect of the fire was not known, it provided CALM with a rare opportunity to study native species' germination and survival.

"The resulting knowledge will also greatly enhance our efforts to restore other degraded populations of the matchstick banksia as well as other Declared Rare Flora species," Greg said.

"Since the fire, it was noticed that seed germinating species, including two of the three rare flora species, the matchstick banksia and the Quairading jacksonia, were appearing in large numbers.

"The stilted tinsel lily, although not yet re-discovered after the fire, is known to be a species that relies on seed germination for survival, hence

appropriate fire regimes are also essential for the viability of this species.

"This fire is the only known summer fire within a bushland population of matchstick banksia, and so the information obtained is crucial for the species' recovery.

"Although the fire destroyed all the adult matchstick banksia plants, the subsequent germination of seedlings provides an opportunity to study the effects of competition and survival on a species that has proven difficult to establish in the field."

Staff monitoring the banksia over the next three to five years will examine the long-term influence of fire, including survival, health, competition and the effects of grazing and weeds on species establishment.

The germination of native grasses, seldom seen without fire, is just another example of the dynamics of Wheatbelt vegetation systems, and hopefully this fire will add a little more to the understanding of the role of fire in these areas.

Nick's a Memorial Award winner

CONGRATULATIONS to Marine Conservation Branch oceanographer Nick D'Adamo (pictured below) on winning the 1997 Kevin Stark Memorial Award.

Nick shares the award with WA Department of Environmental Protection senior environmental officer Dr Des Mills and University of Canterbury, Christchurch, NZ, professor David Wilkinson, who jointly produced the winning paper

titled *Exchange Processes in Cockburn Sound - a Seasonally Stratified Embayment off Southwest Australia*.

Their paper comprised the results of a fundamental component of Perth's recently completed Southern Metropolitan Coastal Waters Study (SMCWS), which encompassed ecological, social and economic considerations in Perth's vast coastal zone, including three marine parks.

Marine Branch manager Chris Simpson, marine ecologists Jim Burt and Jennie Cary were key members of the SMCWS team.

The Kevin Stark Memorial Award was established in 1993 by the Institution of Engineers, Australia, National Committee on Coastal and Ocean Engineering (NCCOE) to foster and encourage excellence in coastal and ocean engineering in Australia across the full range of professional practice, research and teaching.

The committee found the trio's paper "of a very high standard, was well presented and also embodied the breadth of multi-disciplinary expertise which we have been keen to encourage in Kevin's memory."

The award was established in honour of the late professor Kevin Percy Stark of James Cook University, following his untimely death in 1989.

At the time of his death professor Stark had established the University's reputation as an internationally recognised centre of excellence in coastal and ocean engineering and technology.

His greatest successes were in marine science and technology, in which he sought to break down the barriers between disciplines, and in 1987, he received the Sir John Monash Medal awarded by the Institution of Engineers for this work.



After his lunchtime seminar, Dr Syd Shea shows Human Resources Branch manager Cliff Gillham and former volunteers training officer Marie McDonald a piece of fine-oriented strand board. Made from pinewood chips, it has the strength of plywood and the finish of medium-density fibreboard. Photo by Verna Costello

Lunchtime seminars - 1997—1998

ELEVEN well-attended Como seminars were held throughout 1997 covering a range of CALM projects and issues.

These included Health and Fitness, Project Eden, Marine Conservation, Perth Observatory, Aboriginal Training and Tourism, Forest Communications, Western Shield, Blue Gum Plantations, Mari-time Pine Plantations, Regional Forest Agreement and LANDSCOPE Expeditions.

The aim of the seminars was to inform CALM staff in Perth (or Regional staff visiting Perth) of projects and issues pertaining to the department, in an informal and relaxing atmosphere, while people had their lunch.

Attendance at these seminars has been excellent, and it was agreed that the calibre of the speakers and the topics discussed made it well worth while making the small effort to be there.

Thanks are due to Luisa

Liddicoat for a sterling effort in organising the 1996 and 1997 seminars.

If you would like to become involved in the 1998 seminar series by contacting speakers on suggested topics, booking the venue(s) and advertising the seminars, please telephone Penny Walsh at the Corporate Relations Division, on (08) 9389 8644. If you can't become involved, please phone anyway with your suggestions for topics and speakers; they will be most welcome.



Nick D'Adamo. Photo by Verna Costello.

CALM wins a top Records Management Award

CALM has won the 1997 Excellence in Records Management Award.

The Award, sponsored by the Public Records Office, the Records and Information Management Liaison Group

by Jenny Moss

and the Library Board of WA, was established in 1994 to encourage organisations and individuals to achieve best

practice in records management.

It focuses on initiative, improvement in the quality of records management practices, and productivity improvement.

CALM's nomination for the Excellence Award was submitted by the Corporate Information Section (CIS) and competed with more than 500 public sector agencies, including State and Local Govern-

ment Authorities and other statutory bodies.

It was selected on the following basis:

- Its high level of senior management and organisation-wide support;
- Its consultative approach in developing and implementing changes;
- Changes driven by a demonstrated need for quality record-keeping;
- Its development and implementation of CALM Keyword Thesaurus for indexing corporate records;
- Its archival project involving a large number of non-current files.

The Corporate Information Section has been working with individual workgroups to review their current work area files, replacing them with a new series, structured to achieve a better match with clients' information-management needs.

Groups that have so far benefited from the new system include the Plantations Group, Human Resources Branch, and Marine Conservation Branch, and CALMfire.

While the consultative approach takes time, the results have been very pleasing and the benefits significant.

Not only do clients end up with a better way of managing their records, they also gain a greater understanding of regu-

latory requirements. More importantly, CIS staff develop a better appreciation of client needs.

Another major thrust is the development of specifications for a new records management system.

For instance, there is widespread demand for a single means of accessing records right across CALM, for the ability to quickly identify individual documents in the system, and for a mechanism to help manage electronic records.

The extra work taken on by CIS has been achieved primarily through productivity gains.

Everybody is working harder *and* smarter. Importantly, many initiatives for improved methods of working have been suggested by individual CIS team members.

"As yet, not everyone has benefited from the improved services," said Director of Corporate Services John Byrne.

"But once they see that CIS can increasingly provide more 'value-added' services, I'm sure our clients will be very satisfied with the changes we've been making.

"And last but not least, CALM will be well prepared to meet the anticipated changes to regulatory requirements once the new public records legislation is enacted."



Proudly displaying their award are, at rear: Information Management Branch manager Colin Pearce, Carolyn Atkinson, Patricia Saviel, Chinh Nguyen, and Graeme Zekulich. Centre: Corporate Services Director John Byrne, Bob Mitchell, Sarah Bastian, Cathy Birch, Linda Thompson. Front: Amy Bastian, Jenny Moss and Danny Flynn. Photo by Verna Costello

The 1996 graduates - where are they now?

AN Irishman, a cook and a dieback interpreter! It reads like the ingredients in a recipe for fun. However, it is only a brief background to the profiles of three field officer recruits from 1996—David Whitelaw, Alan Wright and Trish Nanni, who are the next to star in our feature presentation of 'Where are they now?'

His article will take us to the southern region of Bunbury, the hills of Perth and the eastern wheatbelt town of Merredin, while looking at the situations that led each field recruit to where they are now.

David, Trish and Alan attended the CALM Dwellingup Training School for a series of training programs in July and October 1996.

Like the 1995 graduates, the three participants agreed that the programs developed relevant skills for the practical work now required of them in their work, and provided a comprehensive insight into the activities carried out by other CALM staff.

David Whitelaw: David currently works as a dieback interpreter for CALM's Bunbury Forest Management Branch, but he also works regularly in the southern part of the Central Forest Region. This means that he resides mainly in Busselton. Born in Dublin, Ireland, David grew up in Perth and gained his Bachelor of Science (Environmental Management) degree at Edith Cowan University.

David applied for a field officer position after deciding that CALM was a career option that most suited his lifestyle.

While roaming the Central Forest Region near Bunbury, David's duties include inter-

by Toni Hoath

preting and mapping the presence of *Phytophthora cinnamomi* fungus (the cause of dieback disease).

Because he interprets different areas of the Central Forest Region, David sees the diversity of vegetation as well as the effects of dieback, and particularly enjoys the ongoing learning process the forest provides.

"I find this very satisfying," David said.

"And there have been some interesting learning experiences.

"The type of work I do requires me to study the movement of dieback boundaries.

However, I've found that it is the wildlife that has 'moved me' most profoundly," David said.

"I vividly recall the time I learnt that bull ants were capable of biting with military precision in places I'd have thought were pretty well inaccessible to the little critters.

"This discovery led to another—that Hard Yakka trousers can be removed with the speed of greased lightning!"

Trish Nanni: After starting out as a dieback interpreter at Kelmiscott Forest Management Branch and moving onto Manjimup, still in the same role, Trish decided on a change of scenery and moved to Merredin as an operations officer.

Trish enjoys the scope that CALM allows in applying the principles learnt through her Bachelor of Environmental Science (Honours) Degree at Murdoch University.

"My job in particular is very satisfying, with plenty of variety and opportunities to make a

difference and help the environment," Trish said.

"The local people are also very enthusiastic about getting behind various projects, which makes the Wheatbelt an amazing environment to be a part of."

Currently, Trish has several portfolios, which provide the variety she so much enjoys in her work.

These portfolios include environmental protection, recreation, reserve management, biophysical surveys and fire control.

Rat baiting

The most interesting experience that Trish has been involved in while with CALM is the feral rat baiting of the Montebello Islands in August last year. (It's rumoured the fishing was excellent, too.)

Alan Wright: As an apprentice chef and registered nurse, Alan has an unusual background to becoming a field officer recruit, but it was a deep love of the bush that drove him finally to pursue a career with CALM.

Alan's current position as a field officer includes silviculture (tree marking) and nature conservation works. Fire management also forms a large component of his duties during Spring and Summer.

"What I find immensely satisfying is the enthusiasm of both the staff and the local community for conserving our environment," Alan said.

All three recruits were asked what their future goals were within CALM and the response was very positive.

Both Trish and Alan have a goal to work with the public in education or conservation projects while David believes that his goals are an open book at present and is happy with the



Alan, David and Trish carrying out a spot of surveying in a Field Engineering Course. Photo by Megan Hughes.

range of prospects that CALM has to offer him.

Diverse as the backgrounds

of each field officer recruit are, there is one strong feature about David, Alan and Trish

that they have in common, and this is their total commitment to their work with CALM.

CALM volunteers' rare plant re-discovery identified



Jean and Fred Hort are ready, with hats, haversacks and notebooks, to track down more rare plants. Photo by Noel Hoffman.

A RARE Western Australian wildflower, the pink starbush, (*Asterolasia grandiflora*) was found recently, growing in CALM's Mundaring District.

The rare flora was discovered by wildflower enthusiasts Jean and Fred Hort who, as CALM volunteers, play an active role in the department's rare flora program.

Although the Hort's located the rare flora several years ago, they were not aware of its identity until recently, when Mrs Hort keyed out the species and identified it as *Asterolasia grandiflora*.

Realising the significance of their find, Fred notified CALM's Wildlife Branch, and arrangements were made with Swan Region conservation officer, Les Robson to confirm its identity.

Les confirmed the plants as

by Mike O'Donoghue

the rare starbush, counting more than 1200 individual *Asterolasia grandiflora* plants. He estimates that the new population consists of more than 5000 individual plants!

The pink starbush, which is declared as rare flora under the Wildlife Conservation Act, was previously known from six populations in the wild, consisting of an estimated 5800 plants.

The newly discovered population is now the largest one known in the wild and is thus significant for the conservation of the species.

As the common name suggests, the pink starbush is a pale pink-flowered shrub to one metre high.

It is confined to lateritic hills

in the Toodyay-York area and now, thanks to Jean and Fred, it is also known from Mundaring. The species flowers from July to October.

The pink starbush is the second rare species the Hort's have discovered in recent times.

They located a number of populations of the very rare orchid, the cinnamon sun orchid (*Thelymitra dedmaniarum*) in the Wandoo Conservation Park in 1995.

Jean and Fred's interest and enthusiasm, and that of other CALM rare flora volunteers is helping CALM to better document the location and distribution of the State's rare wildflowers.

About 10 per cent of rare flora report forms submitted to CALM as part of the rare flora monitoring program are completed by volunteers.



CALM's Director of Regional Services Chris Haynes (left) congratulates Perth Bushwalkers' project leader Frank Obbens on a job well done, at the official opening of Eagle's View Walk Trail in John Forrest National Park. Photo by George Duxbury.

Hansol an award finalist

THE landcare efforts of one of the biggest tree planters in the South-West have been recognised at a recent State Landcare Conference.

Hansol Australia Pty Ltd, which is working to plant 20,000 hectares of bluegums in the south-west, was a finalist in the 1997 Landcare Australia Award for Western Australian business.

More than 400 delegates attended the State Landcare Conference in Geraldton.

The awards were first presented in 1991 by Landcare Australia Limited as part of its charter from the Federal Government to promote a landcare ethic across Australia. The State and national competitions are held in alternative years.

This year's State awards were judged in 12 categories, recognising the outstanding landcare efforts of primary producers, individuals, landcare groups, schools, businesses,

local government authorities, researchers and the media.

Hansol Australia was set up in 1993 to plant bluegums in sharefarming agreements with local landowners. The trees will be harvested about 10 years after planting and the woodfibre produced will be used to make high-grade paper.

Hansol is a subsidiary of Korea's leading paper manufacturer and a major forest products company. The company chose WA's South-West for their new plantation project after studying potential tree crop regions around the world. The company has appointed CALM as their project manager under a 25-year contract.

The Manager of Hansol Australia, Mr Frank Lee, said 6,400 hectares had already been planted under the company's 10-year planting program.

The cost of establishing 20,000 hectares of bluegums is estimated at \$60 million and

another \$80 million will be paid to landowners over the life of the project.

"Hansol is working to replace the traditional concept of plantations as block plantings that replace agriculture," Mr Lee said.

"Instead, we are offering individually designed plantings that will not only produce a competitive return, but will also boost the productivity of other crops and stock and provide valuable landcare.

"This means species such as the salt-tolerant river red gum, and acacias for fodder, can be planted in areas unsuitable for bluegums.

"Hansol is committed to protecting the environment and it is a great honour to have been judged a finalist in the Landcare Awards.

"The highly positive work being done by other applicants makes me particularly proud that Hansol has been included in such company."

Eagle's View Trail opened

A DAY-LONG walk trail of medium difficulty has been officially opened in John Forrest National Park.

The Eagle's View Walk Trail was a project of the Perth Bushwalkers' Club (Inc.), which saw a need several years ago for the construction of such a trail in the park.

The proposal was put to park staff before the release of the John Forrest National Park Management Plan in 1994, so that the idea could be catered for in the Plan.

All of the trail construction was carried out by Perth Bushwalkers' Club members, while park staff acted as facilitators and advisers.

Club members also provided the track identification and

by George Duxbury

direction signs, together with a printed guide identifying points of interest.

The trail makes use of some of the park's existing tracks, but wherever possible it is laid out away from established tracks.

Eagle's View Walk Trail provides visitors with a walk of some 15 kilometres through an area of the park north of Jane Brook.

Walkers are advised to carry a plentiful supply of water and, as there are some steep sections, as much as seven hours should be allowed to complete the distance.

The rangers have set up a walkers' registration facility at

their office, which is both the start and finishing point of the walk, and they suggest that all walkers ensure they register both before they embark on their walk and on their return.

The Eagle's View Walk Trail was officially opened by CALM Director of Regional Services Chris Haynes, who congratulated the Perth Bushwalkers' Club on its efforts and, in particular, Mr Frank Obbens, who was the project co-ordinator and driving force in achieving such a wonderful result.

It is undoubted that Eagle's View Walk Trail will be an ongoing asset for John Forrest National Park, and early indications reveal a keen interest in the trail by the walking public.



Hansol Australia manager Frank Lee (left) and CALM Sharefarm's Lower West manager Tym Duncanson. Photo courtesy Farm Weekly.

CALM staff and families in Bibbulmun busy bee

A GROUP of CALM staff (most with relatively soft hands) discovered their prowess with shovels, crow-bars, power tools, wood and nails during a weekend on the Bibbulmun Track.

The enthusiastic volunteers were recruited from the Division of Parks, Recreation, Planning and Tourism staff, their families and friends.

Construction team

The team of 18 adults and five young people constructed a roofed and open-sided, shelter, two tent sites, connector trails, a toilet and a barbecue area in less than two days.

The location was a scenic spot known as White Horse Hills north-east of Dwellingup about one hour away by four-wheel drive.

At around 8.00 am on the Saturday a small convoy made its way from CALM's Dwellingup compound to the construction site where the occupants alighted and proceeded up an incline to survey the task at hand.

Digging, gouging, cracking

Participants located various elements of prefabricated materials which they later moved into position once trenches were dug, holes gouged out, boulders upended and cracked into bits.

Small work teams evolved under the well-organised and patient leadership of Peter Bidwell, Noel Davenport, Wayne Burton, Raelene Hick and Annie Keating.

An impressive effort on the first day led to a night of mild cavorting with hearty food from the CALM fire trailer and several types of appropriate beverages.

A few suffered in silence the next day, but that did not stop progress and it was back into the sweat and grime for the finale.

Motivation remained high as shorter tasks were completed and all the teams joined forces



Some of the construction gang, left to right, CALM volunteers Jim and Kirsty Cave; CALM staff landscape designer Mike Bodsworth, construction supervisor Noel Davenport, special projects co-ordinator Annie Keating (squatting), project officer Arvid Hogstrom (behind Annie), volunteer Michelle Cave (at rear), business manager Val Cave, and assistant project co-ordinator Peter Bidwell (both CALM staff). Photo by Elio Novello

by Val Cave & Lotte Lent

at the shelter site to clapboard the three walls, fit the roof, gut-tering and rain water tank.

Certain images will be hard to erase like:

- Raelene's husband Peter standing on the fire trailer

using a hard hat to scoop water out of the tank and over his close-to-naked body in a lame attempt at cleanliness;

- Plugger Burton (nicknamed after the famous Swans footy player) lying exhausted in a wheelbarrow as it was getting close to bedtime;

- a group of tired bodies sitting around the campfire contemplating the rocks, potholes and trees to avoid on their trek to the loo, their sleeping bags and finally to rest under the jarrah trees and twinkling stars.

- And of course the two team members who managed to sleep in until 10:30 on

Sunday morning amid the noise of four hammers banging, a circular saw, electric drills and a blasting generator!

Great pride

When the last few people finally made their way home at around 4.00 pm on Sunday, it was with a great sense of

pride—the progression from lots of bits and pieces to completion of a sturdy retaining wall, a beautifully constructed cabin, creatively designed walking paths leading to a handsome dunny and naturally landscaped tent sites, all making the weekend a special achievement as well as a lot of fun.



New book a boon to land managers and gardeners

WESTERN Weeds: a guide to the weeds of Western Australia full-colour book, boasting 600 illustrations and describing 1,000 Western Australian plants was launched recently at Cockburn Wetlands Centre.

The book was written by Greg Keighery and Penny Hussey from CALM, John Dodd and Sandy Lloyd from Agriculture WA and Roger Cousens from La Trobe University (formerly of Agriculture WA). A great deal of assistance was provided by numerous staff at CALM's WA Herbarium.

Launching the book, Environment Minister Cheryl Edwardes praised the Departments involved, saying that such a guide was long overdue and would be valuable to

all Western Australian land managers.

She also gave credit to the Gordon Reid Foundation for Conservation, which provided a grant for the printing.

The book is available from Agriculture WA for \$25 plus \$5 postage—but be quick! It's a best seller, with almost all of the 2,000 printed copies sold in its first two months!

Left: At the launch of Western Weeds were: Professor Roger Cousens, Joanna Seabrook (Gordon Reid Foundation for Conservation), Environment Minister Cheryl Edwardes, Dr John Dodd, Sandy Lloyd, John Holmes (Agriculture WA, Weeds CRC), and Penny Hussey. (Absent was Greg Keighery - who sent his apologies.) Photo courtesy Margo O'Byrne.

Battling Fauna Conservation Course a winner

SIXTEEN weary but satisfied individuals headed home from the Battling Forest near Darkan recently, after surviving a week of trapping, spotlighting, and lectures on everything from numbats and bandicoots to frogs, bats, rodents, birds and exotic predators.

They were taking part in the latest Fauna Conservation Course, co-ordinated by Peter Orell from Wildlife Branch and Keith Morris from Science and Information Division.

Fauna management

The course is designed to give staff the knowledge and hands-on experience to plan and implement fauna management programs in their region, district or park.

John Skillen, then regional operations officer at Bunbury, Rob Brazell of Mornington District, and Keith Morris, originally developed it in 1992.

"The structure and scope of the course has

by Penny Walsh

changed in response to feedback and the evolving needs of the department," said Peter.

"The idea now is to build up a pool of experience within CALM to help implement *Western Shield*.

"The course also gives people a chance to meet and work with staff from other areas within the organisation."

The latest course brought together a district manager, a regional ecologist, foresters, operations officers, national park rangers and wages staff.

In the past, there have also been participants from mining companies and tour operators.

More than 90 people have completed the course since 1992.

More taking part

"We'll be looking to encourage more outside participation in the future—it helps offset the costs," said Peter.

The demand from inside CALM is also increasing, and if the response of the latest graduates is anything to go by, the course has a very bright future.

All agreed that their week in the forest was very useful, if a little exhausting.

The main complaints revolved around bites—from the tick and woylie variety.

Time consuming

In fact, the large woylie numbers made the course trapping and survey work more time-consuming than expected, which was good news from a nature conservation point of view, but bad news if you were the unlucky one who had to dip your hand into the traps.

Along with woylies, course participants came to grips with brushtail possums, quenda, chuditch and a range of small reptiles and frogs.

According to Peter, working with the animals is usually the part people

enjoy most, but lectures on the biology and management of major South-West fauna groups, the control of exotic predators, legislation and policy, and the implementation of *Western Shield* are just as important.

"The quality of the information is excellent and this course shows the benefits of a joint approach by the Science and Information and the Nature Conservation Divisions."

The focus between now

and the next course, in April 1998, will be on getting the package nationally accredited.

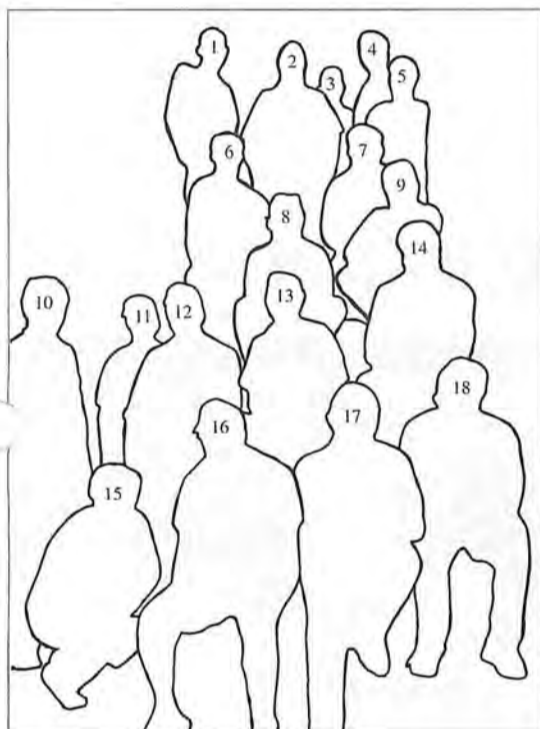
This will mean a feather in the cap of participants, and help with developing a consistent level of knowledge and experi-

ence throughout CALM.

"The feedback we get is always very good. Battling is a great venue and we get excellent support from Collie District. All we have to do now is refine the process," Peter said.



Fauna Conservation Course participants take a break to 'pose for Penny'. They are; 1. Ken Wheeler, 2. Martin Clarke, 3. Peter Orell, 4. Keith Morris, 5. Colleen Smith, 6. Doug Giles, 7. Des Plumb, 8. Clive Cauldwell, 9. Scott Godley, 10. Brett Fitzgerald, 11. Caroline Brocx, 12. Barry Ashcroft, 13. Ann-Maree O'Callaghan, 14. Dennis McDonald, 15. Ban Tannock, 16. Geoff Passmore, 17. Klaus Tiedemann, 18. John Hanel. Photo by Penny Walsh



Successful re-establishment of matchstick banksia

CO-OPERATION between a team of concerned landholders, community groups and government agency staff, including CALM Narrogin District staff, has resulted in the successful re-establishment of the rare matchstick banksia (*Banksia cuneata*) into Wheatbelt remnants.

by Jackie Nichol

Known as the Banksia Cuneata Recovery Team, the group has successfully established 75 new seedlings of this attractive banksia since 1995.

CALM's Narrogin District operations officer Greg Durell said that this was a considerable

achievement, being about 15 per cent of the total matchstick banksia population surviving in the region.

"Currently, there are about 580 individual plants found in the Wheatbelt, and until recently, the species had proved difficult to establish in the wild, because it grows only in deep yellow

sands, and the plants are susceptible to dehydration after planting and during a drought," said Greg.

"The first aim of the re-establishment work by the Recovery Team involves growing seed collected from the field in the CALM Narrogin Nursery.

"Next comes the planting of the seedlings back into populations where they were first collected, and where they'll enhance and increase the total number of plants surviving and growing in natural populations.

"The second aim of the project is to replace older plants as seed stock, and allow for natural germination to prevent the population from declining further.

"So far, the whole team is confident the management strategies have been successful," said Greg.

Of 54 seedlings planted back into natural populations in 1995, 34 have survived and are growing strongly, despite two

drought summers.

The first translocation in 1996 saw the extension of a roadside population of the seedlings onto adjacent private property, with a neighbouring landholder donating an area of deep yellow sand for their re-establishment.

The area was fenced, weeds controlled and seedlings planted on the site.

Local native tree species were also planted, specifically to support the species' key pollinators such as nectar-feeding birds, bees and ants.

Seedlings established

"This was the first time nursery-grown seedlings were established back into natural habitat populations, and it's hoped this technique will continue to be as successful in the future," said Greg.

"Additional plantings will ensure that healthy matchstick banksia populations are found in the Wheatbelt for many years to come.

The Recovery Team, in conjunction with CALM Narrogin staff, have also been busy examining the effects of fire on the matchstick banksia.

Studies on the effects of fire are being undertaken over the next few years, following a fire in 1996, which destroyed a large adult population of the banksia.

The results of a 1986 study revealed that burning weedy, exposed sites of the matchstick banksia generally decreases regeneration success.

"This is because dense, faster growing weeds quickly invade the burnt areas and seedlings can't compete with them or survive for long in a summer drought," Greg said.

"It's hoped the studies will reveal information relating to seedling growth and weed invasion, as well as successful banksia regeneration following fire.

"This is vital information for the banksia's future management."

The Recovery Team is also undertaking a population census to determine survival, population fluctuations and health of all known individual banksia in the Wheatbelt.

Results of this survey will help in applying suitable management strategies for the recovery of the banksia.

A study on the pollination biology of matchstick banksia is currently being undertaken to determine types and number of pollinators visiting the trees, as well as the sites at which they prefer to feed.

This information will lead to the formation of other experiments comparing differences in small populations, roadside populations and populations in larger remnants.

These and other studies will go a long way towards improving the Recovery Team's current knowledge of the ecology of this rare and unique banksia.



Matchstick banksia in flower. Photo by Greg Durell.



Role-playing Nyoongar past

PICTURED are Kyle Morrison (left) and Kevin Hill, with Armadale Pioneer Village School students Angela Becker (kneeling) and Courtney Johnston.

Readers may remember Kyle as one of the actors in the Channel 7 series *The Adventures of the Bush Patrol*, filmed at John Forrest National Park, and reported in the May-June 1996 issue of CALM NEWS.

Kyle played the part of Gully, a young Aboriginal boy, who is a firm friend of the Katta Moornda Park ranger's children Tracey and Ben.

He is currently gaining work experience with CALM.

Kevin Hill recently joined CALM's Aboriginal Tourism,

Education and Training Unit and is helping Aboriginal heritage officer Trevor Walley lead the students in one of The Hills Forest Aboriginal Culture Programs.

Here, the girls, along with about 25 fellow students, were led through the forest, where they acted out the roles of a group of Nyoongar people travelling over the land during the six Aboriginal seasons of the year.

- Bunuru February and March
- Djeran April and May
- Makuru June and July
- Djilba August and September

- Kambarang October and November
- Birak December and January

This 'six-season walkabout' is condensed into one morning and each stop represents a different season, with the activities related to sources of food and shelter.

The party is pictured with their digging sticks at the site of a mia mia—a traditional Aboriginal shelter—where they acted out preparations for the Djeran season (or winter), when kangaroo skins were donned and repairs were carried out on the mia mias against the coming cold and wet weather.

Photo by Liz Moore.

Regional Services head opts for consultancy role

(from page 4)

In the last few years I've been preoccupied pretty well with finance and staff issues.

I'm pleased to have worked in this area at the end of my formal career, and to have put in place some processes which I hope will make life easier for my successor.

It was also satisfying to become involved in forestry again. There was a time when I doubted I'd ever be welcome in forest management again; but then the South-West and the Northern Territory are like chalk and cheese.

I see a great future for the balanced and sensible use of our native forests, and for the exciting new projects CALM is doing, combating salinity and restoring the critical weight range animals through fox and cat control.

These are bold projects which will in my opinion make Syd Shea one of the greatest visionaries of our time. It's been an extraordinary privilege to work with him.

I'm looking forward to the next phase of life when I'll be

able to undertake some projects for CALM, pursue some business interests, get back into languages and writing, and eventually to travel a bit more.

We'll probably stick to the South-West for quite a while, and, in fact, I may not get more than a few kilometres from Fremantle, which is a great place to live.

Although Julia is now in Sydney and Sarah in London, we've made WA our home, and I thank you all once again for making us so very welcome.

Anne fired up by Churchill Fellowship experiences

AS part of my work as a research scientist for CALM's Science and Information Division, I manage the Department's Threatened Flora Seed Centre (TFSC), a genebank for conservation species.

With TFSC technical officer Kate Brown, I collect, test, store and monitor seed of rare and threatened plant species until required for future reintroduction programs.

Last year I was awarded a 1997 Churchill Fellowship to travel for 10 weeks to the United Kingdom, Ireland, Italy, the United States, and Spain.

After the Fellowship, I used some of my annual leave to also visit South Africa and the Mascarene Islands of Rodrigues and Mauritius in the Indian Ocean.

The aim of my Fellowship (and the travels afterwards) was to improve my knowledge of off-site native flora conservation, particularly genebanking, as the effectiveness of my work depends to a large degree on my ability to keep abreast of the latest technologies for seed testing and storage.

Most of my time was spent at Wakehurst Place, Royal Botanic Gardens, Kew Seed Bank, in England.

The seedbank staff included me in their routine work, which involved seed collecting, cleaning, germination testing and genebanking.

Working at Wakehurst

The work at Wakehurst Place is similar to that in Perth but on a larger scale. It was just like being back at the TFSC, (although the build-up of work awaiting my return didn't diminish!)

I participated in a seed collection trip to Devon and

by Anne Cochrane

Cornwall and experienced how English seed collectors work.

Most plants targeted for collection were less than ten centimetres high and collecting involved lying on the ground with a small plant a few centimetres from my face!

There are some minor differences in the running of the genebank (usually to do with the whim of the seed bank manager or the nature of the seed).

I was very envious of some of the seed-testing equipment at Wakehurst Place, and intensely jealous of their soon-to-be-built Millennium Seed Bank, worth millions of pounds.

Model seed bank

At the other end of the spectrum, I visited a model seed bank in Ireland, established at a much smaller scale than the TFSC, but integrated with a comprehensive reintroduction program.

In Rome I visited the International Plant Genetic Resource Institute (IPGRI), which funds and coordinates research work world-wide and publishes on a range of topics related to genebanking.

These publications are provided free of cost, but are essentially directed towards agricultural species. I have asked institute members to include me in future research appropriate to our needs.

In the United States, I attended a Seed Biology and Technology Symposium. Although an interesting meeting, it proved to be essentially crop-oriented.

Nevertheless, it was a good venue for establishing contacts

and provided an opportunity to view the large National Seed Storage Laboratory at Fort Collins.

In Portland, Oregon I visited Berry Botanic Gardens Conservation Director Dr. Ed Guerrant, and spent four days discussing genebanking and reintroduction, and visited reintroduction specialists in Corvallis.

US experience

Also in the US, I spoke with restoration ecologists, people working on the reintroduction of threatened species and had discussions with conservation program managers, and visited a grassland restoration site.

In Madrid I spent an interesting week at the long-established Crucifer genebank, where Professor Gomez-Campo provided me with hands-on laboratory work involving wild crop species.

I think he thought that I was a complete novice at seed cleaning, but complimented me nevertheless on my speed! I also learned how to seal seeds in glass tubes for long-term storage.

More effective packaging

This method of seed packaging is preferred by several genebanks and is believed by some researchers to be more effective at reducing moisture intrusion over the long term.

In Cape Town, I spent a week at Kirstenbosch Botanic Gardens with Dr. Neville Brown, whose pioneering research on the use of smoke to aid germination of native plants seed has excited much interest in Australia.

Fynbos like kwongan

Of all the places that I visited, the fynbos of South Africa



Caption: Anne Cochrane at work in the Herbarium, shortly before taking up her Churchill Fellowship. Photo by Ken Maley courtesy The West Australian.

presented the closest approximation to our native kwongan vegetation in Western Australia.

Because of this similarity, I found discussions on seed germination techniques with Dr. Brown highly enlightening.

I hope to collaborate with him on seed germination projects in the future, and the WA seed facility is already trialing one of the Kirstenbosch laboratory's techniques. Cape Town is also a nice place to visit!

Rodrigues and Mauritius provided an insight into some splendid work on the reintroduction of rare and threatened plant and animal species.

The major finding of my Fellowship is that the procedures and protocols for manag-

ing seed of native species in genebanks are essentially the same world-wide, and that we, in Western Australia, are 'doing it right'.

Any major differences between the TFSC and other genebanks are related to the standard of facilities.

However, with a few modifications to basic procedures, techniques and equipment, the Threatened Flora Seed Centre should attain international recognition for its role in genebank conservation.

Database sparks interest

The database developed by the TFSC has already provoked considerable interest, with Berry Botanic Gardens staff in the US hoping to trial its use very soon.

Perhaps the greatest benefit I received from the Fellowship was meeting other researchers, and the possibility of future collaborative work.

I feel that I will be able to make a substantial contribution to both the State and the National task of conserving Australia's unique flora.

To this end, I intend sharing the knowledge I have gained from the Fellowship, through training sessions, updating procedures for seed testing and by upgrading the existing genebank facilities (funding has recently been sought for the latter).

And finally, I hope to raise awareness of the role that the TFSC genebank plays in CALM's integrated flora conservation program.