

CALM NEWS

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

December 1990

Readers give thumbs up

More stories from the regions. Less technical jargon and statistics. More concise people, places and happenings stories. These are some of the recommendations to emerge from the recent CALM NEWS Readers' Survey.

One hundred and forty CALM staff, throughout the State, took part in the September-October survey, which was designed to find ways to improve the newsletter. The survey was conducted by Michelle Sprunt, a third-year student at the Western Australian College of Advanced Education. "One of the principal

overall findings of the survey is that CALM staff see the newsletter as their own," says Ron Kawalilak, Manager of Public Affairs. "The results indicate that CALM NEWS is well-read, especially in the country areas, and the CALM staff want to see it used primarily as a means for internal communications, rather than as a public relations vehicle aimed at a wider audience.

"There is a consensus that the principal aim of the newsletter is better staff relations. "For those of us involved in producing CALM NEWS, that means ensuring the editorial con-

tent of the newsletter is directed to the interests and concerns of the widest possible range of people in the Department.

"The preferences expressed in the survey will help us to do that," he said. The survey, which involved a written questionnaire directed to all CALM staff, and a limited series of random telephone interviews, revealed the following:

- more than nine in 10 respondents (93%) said they found CALM NEWS informative;
- 63% of country respondents said their family read

the newsletter, while the figure for Perth was 33%;

- seven in 10 respondents either agreed or strongly agreed that there should be more coverage of new technology involving CALM, coming events, updates on ongoing programs, regional news and human interest stories. Interest in these stories was even higher in the country by an average 10%, with country respondents also expressing a strong interest in From My Desk (66%) and stories involving policy changes and developments (75%); and
- the least liked section of

CALM NEWS was the occasional photo feature, which received less than a 50% approval rating.

Suggestions for improvement included ensuring that the newsletter came out regularly and on time, using recycled paper, ensuring that CALM NEWS has an easy-to-read layout, and finding ways to increase involvement of staff.

"We have now begun to make the necessary changes," said Ron. "Another survey in 12-18 months will see if we are on track."



CALM Officer Andrew Chapman with a bustard that's to fly to Adelaide. Photo courtesy Kalgoorlie Miner.

Bustards fly with Ansett

Two nine-week-old bustard chicks found their way into CALM wildlife officers' hands recently.

The birds, from the Tjuntjuntjarra Aboriginal outstation in the Great Victoria Desert, were en route to Adelaide Zoo, where they will become part of Australia's only bustard captive breeding program.

The chicks had come to the attention of South Australian naturalist John Lark, who had known the Tjuntjuntjarra community for some time.

John contacted Adelaide Zoo, which then

approached CALM's Goldfields Regional Office to discuss the possibility of exporting the birds to South Australia.

Although the bustard is not considered rare or endangered in Western Australia, it is not as common as it once was.

Reasons for its decline include clearing of habitat, predation by foxes and cats, and illegal hunting.

The bustard chicks were driven 700 km from the Tjuntjuntjarra community to Kalgoorlie.

Delayed by the aircraft refuellers' strike, they spent

a few days in the care of Pam Chapman, who helps CALM with fauna rehabilitation. The chicks were fed on a special diet of dog biscuits and mince.

To complete the journey to Adelaide, it was necessary to fly the chicks to Perth. Here, these by now well-seasoned travellers were fed and watered by CALM wildlife officers.

One week after leaving the Great Victoria Desert they finally arrived safely in Adelaide after flying Ansett Airlines via Kalgoorlie and Perth free-of-charge.

Forest policy sound—Premier

WA now has a secure framework for sustainable growth of the timber industry, Premier Carmen Lawrence told the 13th Australian Timber Congress last month.

"The Government will take advice from CALM and the timber industry on the need for legislation to secure a sustainable resource base for the industry," she said.

Dr Lawrence pointed out that the public should get things into perspective.

"Governments and industry grow and harvest forests to meet public demand, which still requires Australia to import \$2 billion worth of forest produce each year," she said.

"It is far better to use timber from well-managed Australian forests, where every tree cut is regrown, than to lock up our own for-

ests while plundering the forests of developing countries."

Nevertheless, she stressed that a good balance had been achieved between conservation and use of our forests on a sustainable basis.

"When the reserve system has been completed there will have been a 340 per cent increase in the South West conservation estate - an increase of some 550,000 hectares."

Dr Lawrence said that analysis over many years had shown that even with the reserve system in place, commercial use of South West forests could be sustained indefinitely.

"The unreserved forests are being managed according to the principle of multiple use, including timber harvesting," she said.

She said that it had taken a remarkably short time to implement the new structure of CALM and its new management strategies.

"The long-term supply contracts introduced through the Timber Strategy have enabled significant industry restructuring and investment, both by major users and small sawmillers.

"When the restructuring process has been completed, the State's timber industry will have access to a range of forest produce which will allow for greater flexibility in the face of market downturns," said Dr Lawrence.

"This process will provide increased security of employment to the 30,000 West Australians who are directly or indirectly employed by the industry."

Some issues remain contentious. They include

clearfelling, coupe sizes, the timing and intensity of fuel reduction burns, variations to road, river and stream buffers and the percentage of old growth forests existing in reserves.

The Premier said there would always be a need to monitor land management practices and make adjustments as more was learnt, and that interest groups and the general public had important roles to play in this process.

However, with a solid framework for forest management in place, the Government could concentrate on other pressing environmental issues - such as degradation of farms and pastoral land, the loss of wetlands and mammal extinction.

The complete text of the Premier's speech appears on page 6.

Heritage Commission praise for CALM

by Zoran Panzich

The integration of forestry and nature conservation has come up trumps under CALM's management regime, according to Australian Heritage Commission director Sharon Sullivan.

Ms Sullivan said that although the Commission and CALM may have some minor differences, the commissioners were impressed with the way forests were being managed.

Ms Sullivan described CALM personnel as being "professional and committed".

The Commission spent two days touring through karri forests in the South-West last week, before their biannual meetings in Perth.

Commissioners familiarised themselves with areas nominated for the Australian Heritage Commission's National Register.

They were also interested in CALM's management of the areas nominated for the register.

Most of the national parks and reserves in the area have been registered. Contentious nominations

include two big areas near the Shannon National Park.

Other areas nominated include Kin Kin and Jane Block, as well as Beavis and Giblett blocks.

Ms Sullivan said logging would not be desirable in these areas.

The commissioners were also assessing the value of the nominations being entered on the register.

Ms Sullivan said the Commission was hoping for co-operation in managing the nominated and registered areas from CALM.

"We have discussed various issues with CALM", Ms Sullivan said.

"We want to assess the

nominated areas and propose a management strategy for them."

Although the Commission will have expert assessors inspect the nominated areas it could take up to three years for the areas to be registered.

CALM Southern Forest regional manager Alan Walker said the commissioners had agreed to a hectic two-day schedule during a visit to the karri forests.

The commissioners travelled to Shannon, Mount Frankland and D'Entrecasteaux national parks and State forests near Walpole, on the first day.

Later they visited forest areas which have been nominated or registered on the National Estate, around Pemberton and west of Manjimup.

"We visited sites at Warren National Park, Treen Brook State Forest, Hawke State Forest, Beedelup National Park, Strickland Nature Reserve, Beavis State Forest and Manjimup Reservoir," Mr Walker said.

"Commissioners and their staff now have a very good feel for the forest areas which will be subject to future decisions."

Reprinted courtesy of Warren Blackwood Times

CALM photos wanted

LANDSCOPE is putting together an index of all CALM photo bugs who have slides suitable for publication in the magazine.

"Some of the photography being done by people in the Department is outstanding," Ray Bailey of Public Affairs Branch said.

"Sometimes, 50% of the photographs in

LANDSCOPE have been taken by CALM staff.

"The major impediment to making greater use of this work in LANDSCOPE is simply finding out who has pictures, and of what."

LANDSCOPE's photo policy is (1) to use only top-quality images, (2) to give preference where possible to images provided by CALM staff, and (3) when staff images cannot be iden-

tified, to use the best freelance work available.

Anyone interested in having their slides considered for LANDSCOPE should send a note with their name, work location, contact number and a brief description of slides they have available (i.e., by subject, location, etc.) to: Ray Bailey, Public Affairs, Cynet Hall, Crawley.



Australian Heritage Commission Director Sharon Sullivan and CALM's Alan Walker. Photo courtesy Warren Blackwood Times

FROM MY DESK

At this time each year since CALM was formed, I breathe a sigh of relief and conclude that based on probability the following year will be quieter and a period of consolidation.

In reality, each successive year has been progressively more hectic. I hope that we do not experience the combination of events that has made this year a particularly torrid one. But I have reached the conclusion that it is fanciful for us to believe that CALM is ever going to be "calm".

Apart from the fact that we work in a particularly controversial area, the whole of our society is experiencing major changes just about everywhere we look. Specifically, we are facing, as is the nation and the State, the cold hard fact that if we are going to maintain our level of service, we will have to produce more revenue and do our job more efficiently. The days of us being able to put our hand into the bin of taxpayers' money are over.

Change inevitably causes stress, and of course our budget constraints have put immense pressure on all staff, but it is no use trying to do a King Kanute. Change is inevitable and what we have to do is not resist it but ride with it and be innovative about the way we do things. This year, one of the unfortunate by-products of the considerable public controversy we have been dealing with has been that I have not been able to get out more and talk to people in the Department. But when I have had that opportunity, I have been extremely impressed by the response of everybody in the Department to the need to change and in particular I am impressed that people, although they quite rightly complain, are also prepared to put up suggestions to deal with our problems.

One of the most important things we can do to manage the changes upon us is to ensure there is a constant flow of ideas within the Department. I am committed to ensuring that nobody in the Department feels that they cannot have a say.

Apart from the fact that the people in the Department are responding positively to the change, they have also demonstrated outstanding loyalty during periods when things have been extremely tough.

Thank you very much for your help over the year and best wishes for Christmas and the New Year.

Roo Results

Hundreds of kangaroos and other animals surveyed one night during October probably wondered what all the fuss was about.

The great kangaroo survey was a repeat of one carried out 20 years ago.

Almost 200 CALM volunteers gathered at CALM offices from Wanneroo, to Walpole.

Volunteers from CALM's Como and Crawley offices, journalists, and a few ring-ins from the public also joined the local staff.

Teams drove slowly around designated routes covering 2895 kilometres.

Kangaroos, wallabies, emus and even feral animals such as pigs were all recorded, together with the vegetation type and the age of the vegetation since the last fire.

CALM researchers Per Christensen and Graeme Liddehow conceived and planned the surveys.

The 1970 survey found that the western brush wallaby was quite common, particularly in the northern forest, and it appeared to be most numerous in the jarrah forest.

However, the 1990 survey showed that the numbers of brush wallabies have dropped dramatically: 32 western brush wallabies (1.1 per 100 kilometres) were counted, compared to 277 (10.4 per 1000 kilometres) in 1970.

Per said that the decline was probably due to predation of the young wallabies by the fox.

"There is some evidence of an increase in brush wallaby numbers following fox control in one area of the forest," he said.

"It was also interesting that several feral pigs were counted. This probably indicates that pig numbers have increased since the last survey, when none were seen at all."

"However, the numbers of kangaroos seem to be about the same as they were 20 years ago."

In the original survey, 76 teams set out between 5pm and 7pm, covering 2642 kilometres through jarrah, karri and tuart forest and south coastal areas.

Although the survey was not strictly planned along statistical lines, the results are fairly clear.

World Discoverer visits Kimberleys

by Chris Done

During my long service leave recently, I was privileged to be able to travel on the 100-plus passenger cruise ship the *World Discoverer* on its first voyage to the Kimberley Coast.

On board, to provide essential knowledge about local waters, were two experienced boat skippers from Broome.

We left Broome late one evening and from then on the itinerary was jam-packed with visits to numerous locations, each vying with the others as "the best" and each having excellent claims to the title.

The Lacepede Islands Nature Reserve is home to many species of sea bird; we recorded more than 20 species on this visit. The islands are also one of the most important rookeries for brown boobies. There were only one or two brown booby chicks in residence, however, and even they were almost fully fledged and on the verge of taking to the air. Their families held a magnificent display of their aerial and fishing antics. Frigate bird young were still in the nest, but appeared to be as big as their parents and must have been close to leaving home.

Green turtles were common in the shallow waters around the islands, and there were numerous

tracks on the beach indicating the previous evening's egg-laying activities.

To top it all off, we were treated to a well-choreographed display by a humpback whale and calves as we left the island in the afternoon.

The next day we went to the Silver Gull Creek area near Koolan Island. We were impressed by the birdlife and the almost sheer rocky cliffs with well-adapted vegetation.

A tour of the mine site on Koolan Island, and a visit to Alan Bond's Cockatoo Island Resort, rounded off the expedition landings for the day.

On Wednesday morning, we anchored near the mouth of Prince Regent River, having successfully negotiated the very poorly charted, narrow and tortuous entrance to St George Basin. As far as we know, the *World Discoverer* is by far the biggest ship to have entered the area, and the two local expert skippers really earned their pay to get us there.

A convoy of eight zodiacs and two super-launches took a landing party to Kings Cascade. Even though it was almost dry, it was still beautiful. King Cascade is also the place where the American model Ginger Meadows was taken by a crocodile in 1987, and the incident was used to reinforce crocodile warnings.

The place I had been most looking forward to visiting was Careening Bay, where Lt Philip Parker King careened his survey ship, His Majesty's Cutter *Mermaid* in 1820. To record the event, the ship's chipper carved "H MCMERMAID 1820" on a large boab tree. The inscription is still easily visible today.

The Hunter River area and Bigge Island were followed by perhaps the most spectacular place on the Kimberley coast - the King George River. Once again the armada of eight zodiacs and two super-launches headed up the river. Surely this must come close to taking the title of "The Top Spot", with sea eagles, brahminy kites, ospreys, turtles, fish and so on complementing the spectacular scenery. The gorge is steep-sided - sheer for the most part - and terminates in two currently dry waterfalls. The entire group was thoroughly satisfied with the day's activities, which had also included a morning landing at nearby Tranquil Bay.

To "pay" for my trip, I had to give a few talks and lectures on the environment, points of natural and historical interest, and conservation matters, as well as lead nature walks. I would have been quite happy to do more, since the people and the subject matter were both interesting.

Scarp progress in Kalgoorlie

Since it began in 1988, the Sandalwood Conservation and Regeneration Project (SCARP) has made major progress towards conservation and management of the sandalwood industry.

SCARP, co-ordinated by CALM and funded by revenue generated by the sandalwood industry, so far has spent \$400,000 on a range of projects directed towards five main objectives: research, conservation reserves, management, plantations and

education.

Most recently, a fencing project was completed on two sandalwood reserves in the Goldfields. The fencing project on the Coonana and Wallaby Rocks Sandalwood Reserves (100-140 km east of Kalgoorlie) involved establishing 47 km of boundary fence in conjunction with pastoralists on Hampton Hill and Yindi Stations. CALM provided the materials and the pastoralists erected the fences. The project was an excellent example of cooperation between the pastoral

industry and CALM, achieving joint objectives of stock management and conservation.

Fencing will improve conservation and regeneration by preventing grazing of the palatable sandalwood seedlings. It also allows more efficient use of the pastoral estate and develops watering points.

The SCARP project is an ongoing and integral part of CALM's management of sandalwood throughout the State.

Return of the terns

by Rae Burrows

The stunning bridled terns have returned from their wintering places in south-east Asia to spend the summer breeding and raising their chicks on Penguin Island.

These small tropical seabirds have only recently

extended their breeding ranges in Western Australia southwards.

Before the 1940s, bridled terns were not recorded as breeding on Penguin Island. However, with the strengthening of the Leeuwin current, the birds spread until they now nest as far south as Cape

Leeuwin. Penguin Island currently supports about 1000 breeding pairs.

CALM's Metropolitan Region is encouraging research into these birds.

We look forward to the patter of thousands of tiny little feet - and to the results of the on-going research projects.

Letters

The following letters were sent to David Lamont, Ranger in Charge at Serpentine National Park. David worked with three local colleges recently. He gave lectures on forestry, mining and CALM management of the natural estate to students from Perth College, and assisted with a Duke of Edinburgh training exercise, including helping the Presbyterian Ladies College after their leader injured an ankle.

Perth College
Dear David,
I am writing to express my thanks on behalf of the Year Eight students at Perth College for your wonderfully thought

provoking and informative presentations over the past few months. Your sessions with the girls have had quite an impact and stirred our minds.

I would also like to thank you for your support and assistance when needed. You have provided a great service for which Perth College and I are most grateful.

I hope we can continue to use your expertise in the future and if you think we could be of assistance to you please let me know.

Yours sincerely
Mrs Jane Bell
Co-ordinator of Outdoor Education

Presbyterian Ladies' College

Dear Mr Lamont

I wish to express my appreciation for the assistance you gave to my girls and staff during the weekend at the beginning of September. Mrs. Whipp tells me that you were absolutely marvellous.

It is this sort of help that encourages our girls to be willing, useful and contributing members of the general community as they grow up, especially with regard to their environment.

Yours sincerely
Hazel Day



At the top

by Roger Hearn

Most of the "air space" over Wanneroo District is largely military, controlled by RAAF Pearce. For this reason, Wanneroo has never adopted aircraft for fire spotting, and today still relies on the observation skills of three spotters in towers to find fires.

The longest-serving spotter, or towerman, is Nick Iannucci. Nick is into his 24th year of spotting fires, in an era when towermen are almost part of the ancient history of the Department.

Nick has seen many fire situations and many fire

suppression efforts. The most memorable time was the electric storms of 11 January 1989 when the tower's radio antenna and lightning conductor glowed and arced as they discharged static into the atmosphere.

Another memorable occasion was when a couple of fires, with headfires several kilometres wide, were bearing down on the plantation from the south. These were held successfully by Wanneroo crews on Gnangara Road.

How long is Nick going to remain a towerman? If he has his way, he'll be there as long as the district lets him climb the tower.

Draft plans

More than 160 submissions were received on the draft South Coast Regional Management Plan, released last year. South Coast regional planning officer Ian Herford has nearly completed an analysis of the submissions, which fill four lever arch files.

"It's been quite a job," he said, "but very rewarding. Some great suggestions for improvement of the plan have come forward. What's really interesting is that virtually all submissions to the draft plan were substantive."

Sixty four per cent of submissions originated from within the South Coast region, 30% from elsewhere in WA, 5% from the Eastern States, and one from the USA.

"The hottest issues in the plan, as expected, were the land use proposals," Ian said. "Forty four per cent of all submissions commented on at least one of the proposals."

Another major area of interest that emerged was the conservation of areas on the Nullarbor Plain. Twenty-six submissions (16%) commented on this important area. "Submissions expressed a very diverse range

of opinions from the importance of the area for conservation to the opinion that more land in the area should be opened up for pastoral uses," Ian said.

Submissions were summarised by Lotte Lent who now works in Interpretation and Community Education. Then they were analysed using a new approach which Ian developed in consultation with Public Affairs. "I wanted to ensure that all suggestions were given a fair hearing, and also that the presentation of such a mass of data was in a manner that could be easily read by the public," Ian said.

A lot of very innovative ideas were put forward in the public comments received. "The suggestion that only small dogs should be allowed in National Parks would be an interesting one to police," said Ian. "The guy who thought the draft was part of the Communists' plan for One World Government is another story!"

The summary of public submissions will be presented to the Corporate Executive and NPNCA before Christmas and the final plan should be released in the first half of next year.

Staff News

Servite College
Dear David,

I am writing to extend a note of thanks for all your efforts during our recent Duke of Edinburgh Award exercise within the Park.

It was certainly a learning experience for all our students and your enthusiastic, positive approach helped to uphold the name, and work being done by the Department of Conservation and Land Management.

Thanks again,
Ken Taylor
Phys Ed Department

Appointments: Deidre Maher, ADFO, Manjimup District; Steven Toole, Reserves Officer, Katanning.

Promotions: John Gillard, District Manager, Walpole; Allan Padgett, Planning Officer, Planning Branch.

Retirements: Jim Wolfenden, Mobile Ranger; Don Edwards, Chief Cartographer, Land Information.

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Marine Parks Management

Marmion

by Anthony Sutton

How will CALM achieve a balance between conservation, recreation and commercial operations in WA's busiest marine park?

A possible solution is outlined in the Marmion Marine Park Draft Management Plan released recently by Minister for the Environment, Bob Pearce.

Mr Pearce was given a tour of the marine park by CALM staff which included viewing a pod of eight humpback whales and a dive on the reef surrounding Little Island.

The draft plan suggests the park be divided into three zones: a general use zone, providing for commercial and recreation uses consistent with conservation of natural resources (for example commercial and recreation-

al fishing); a recreation zone, providing for recreation activities that are consistent with the conservation of natural resources, (for example, Boyinaboat dive trail); and a sanctuary zone, providing protection of the park's environment by setting aside areas that are free from fishing.

The launch of the management plan was held at Hillarys Boat Harbour, and attended by about 50 people who were either directly involved in the preparation of the plan or had ties with the marine park.

In launching the plan, Mr Pearce paid tribute to the Friends of Marmion Marine Park, a volunteer organisation, which provides the public with important information about the park's resources and activities.

He said volunteers were an essential part of the overall management of the park.

Shoalwater

by Kate Orr

The Shoalwater Islands draft management plan, for islands off the Rockingham coast, was released by Minister for the Environment, Bob Pearce, in November at Penguin Island.

The event was attended by members of the National Parks and Nature Conservation Authority (NPNCA), the Shoalwater Islands Advisory Committee, Penguin Island Volunteers and CALM staff.

The islands have significant conservation value. Forty-eight species of birds use the islands for nesting, feeding and roosting. These include migratory species that are protected by international treaties.

Penguin Island supports the largest breeding population of little penguins on the west coast of Australia. Seal Island is home to the Australian sea lion, a species in need of special protection.

Penguin Island, covering 12.5 ha, is the largest in the chain. It's a popular visitor destination, and providing a variety of recreation activities.

This range of issues, from conservation to recreation, were important considerations in drawing up a draft plan. Kate Orr from Planning and Greg Pobar and Drew Haswell from Metropolitan Region prepared the plan with assistance from the Shore Island Advisory Committee, whose local knowledge was invaluable.

The plan proposes to exclude access in special conservation areas, zoned over parts of Penguin and other islands. On Penguin Island

there will be clearly marked signs leading to areas such as beaches, the picnic area and walk trails zoned for recreation.

The public will be able to view sea lions from boats and visit restricted islands with guided tours.

Measures to protect conservation values include - rehabilitation of degraded areas, removal of exotics and control of weeds, pests and fire; replacement of buildings on Penguin Island by an interpretation/management facility (with temporary accommodation for researchers and CALM staff) and a toilet/storage facility; likely provision of boardwalks across the penguin habitat and a facility for viewing penguins.

Consideration will also be given to a mobile refreshment facility as a commercial operation.

There is concern over the safety of visitors crossing to Penguin Island by the sandbar. Safe access will be facilitated and possible dangers highlighted.

The temporary interpretation facility is a base for more than 40 volunteers who provide a regular information service and conduct some guided tours.

Promoting visitor awareness, appreciation and understanding of the islands' natural resources will be an important component of management.

The draft plan is available for public comment (this includes comment from CALM staff) until January 11. Please contact Kate Orr with any queries on 364 0777. Have your say in the management of the Shoalwater Islands.



Jan Gathe examines *Darwinia carnea*

Rare plants rediscovered

by Sue Patrick

CALM's publication *Western Australia's Endangered Flora* continues to aid the discovery of rare species.

The presumed extinct species *Sowerbaea multi-caulis* had only been collected three times since the end of last century and, despite several searches, had not been recorded since 1964.

It has now been rediscovered and photographed by Mary Hancock and

Kevin Coate early in November this year. It is growing along a road verge much further north than most of the earlier collections.

Mary was able to identify the species from a drawing in the book and subsequent reference to specimens at the WA Herbarium.

Equally exciting is the rediscovery of a population of *Darwinia carnea* from the Mogumber-New Norcia area. This was found by Ted Griffin, a consultant botanist well known to many CALM staff.

Until this recent redis-

covery, it was only known from one population much further south near Narrogin.

CALM contract botanist Janette Gathe has been searching the Mogumber and Narrogin areas for more populations of the species.

In September Ted also found another presumed extinct species, *Chorizema varium*. This was originally recorded from the Fremantle area last century, and was rediscovered on coastal limestone further to the north.

Fire Management

CALM leads Australia in fire management. There are many reasons for this, the organisational skills are described by Tanya Maxted; while Roger Hearn describes the work of people, like those in the "Wanneroo Gangs" who keep fires under control.

When wildfires occur, CALM mounts a large fire organisation, similar to a military organisation, with 36 fire crews - 250 fire fighters - fully trained to deal with wildfires. Crews are trained each year in fire behaviour, first aid and survival.

In large wildfires, or fires which overstretch CALM boundaries, CALM works side by side with the Bush Fires Board, WA Fire Brigade, State Emergency Service, police and local brigades.

During summer months CALM uses nine aircraft full time to look for wildfires. These aircraft cover the forests and farms between Walpole and Mundaring.

The Department also has five fully maintained fire towers - three situated north of Perth in the pine forest and two in the South-West.

To prevent an "Ash Wednesday" type of fire, and to make firefighting easier, CALM burns areas of bush to reduce the amount of 'fuel' (dry material which builds up on the forest floor) which feeds a wildfire.

Each year CALM prescribe-burns about 300,000 ha forest, woodland, heath or grassland. This year CALM aims to burn 250,000 hectares.

Prescribed burning has ecological and regeneration purposes.

Fire has been part of our environment for thousands of years and flora show physically adaptive traits to it - dropping seed, sending up new shoots, or, like the blackboy, adding to its

charred scaly trunk.

Some wildlife require a specific fire regime - for example, prescribed burning encourages the regeneration of thickets for the tamar wallaby.

CALM, CSIRO and the universities study fire behaviour in Western Australia, and CALM has scientists researching fire in the Stirling Ranges and the Gibson Desert.

Wanneroo Fire Gangs

The 1990-1991 fire season began early in Wanneroo.

By November 11th, Wanneroo crews had already attended 13 fires in the district, including two major fires - 1000 ha in Moore River National Park and 3000 ha of VCL in Ngnangara.

It was a busy time for overseers, Don Harrison, Graham Coleman, Ted Haddrill, Neil Osman, Roy Boyer and their crews. Statistically, the 1989-1990 fire season was not remarkable for Wanneroo. The 63 fires in the area were considerably fewer than the 80 fires of the previous year. The total fire area was also lower.

What made the last fire season memorable in Wanneroo was the performance of the fire crews. At no time were they more in demand, or more extraordinary, than when they fought the Wanneroo Plantation fire on the 12th of January 1990. The fire was travelling at more than 1000 metres per hour, yet the crews managed to hold the fire to only 130 ha.

No district wants to think of such a fire occurring again. But even with fewer crew members, the Wanneroo district staff believe CALM and the community can rely on the experience, the commitment and the expertise of their crews to limit fire again this summer.

Greater security for forests

Providing security for both the forest conservation estate and for the timber resource for forest industries is the key to reducing community conflict over the nations' forests.

Speaking at the All Australian Timber Congress in Perth, CALM Executive director, Syd Shea said that this security would remove much of the distrust which lay behind the conflict and would also generate massive investment in the timber industry. The strategy provided by the WA Government's Timber Strategy had stimulated \$200 million investment in the forest industry.

According to Syd Shea, this investment would increase wood yields and the value of wood products from the forest. This would be done by using logs that currently were burnt or used for low-value products and not by cutting down more trees.

"Providing this security would also improve the forest conservation and recreation values by permitting more sensitive and sophisticated forest management practices. It was essential to achieve the security required

by complementary Federal and State legislation" Dr Shea said.

He added that there was a need for a focussed Federal Government forestry role and suggested that the nation needed Federal forestry legislation. In addition to providing security, through bilateral agreements with the States, this would establish a National Forestry Authority. This Authority would coordinate and monitor the implementation of a National Forest Strategy; establish national standards to protect and enhance all forest values; establish and maintain a national forests data bank.

According to Dr Shea, it seems likely that Australian forests could be managed on a sustainable basis while at the same time generate massive increases in employment and wealth.

"In Western Australia alone, the native forests and new plantations established on cleared agricultural land could generate one billion dollars by the turn of the century."

He said these economic benefits would result in a benefit to the environment.

Guns and trees in Philippines

by Melissa Turner

Toting a gun and being constantly watched by soldiers might sound like something out of a James Bond movie, but it was just part of life for CALM forest officer Alan Hordacre when he visited the Philippines recently.

Another shocking discovery Alan made on his six-week trip to the country was that about 95 per cent of the native forest had been destroyed.

Alan left for the Philippines in April as a member of Rotary International's group study exchange.

As an ambassador for Australia, he spoke to Filipinos about his job, life and family, and in return gained an insight into the lifestyle in the Philippines.

"The most frequent question I was asked by Filipinos was: 'Why can't we emigrate to Australia?'" said Alan.

Staying with wealthy Rotary members on the Southern island of Mindanao, Alan and his colleagues were able to compare the privileged lifestyle of the rich Filipinos, who make up only one per cent of the population, with the squalid existence of the others.

"The Philippines is densely populated, with a

population of 65 million. The average Filipino earns 250 US dollars a year, so their standard of living is not high," Alan explained.

Arriving in Manila not long after an armed attack by the New People's Army and the Muslim Liberation Front on the Corazon Aquino government, Alan was able to experience, first-hand, the conflict we can only read about.

"As we drove down a street of Manila where the conflict occurred we could see bullet-holes in the walls of buildings," Alan said.

"I met a man who lives in the street who said it was mainly civilians caught in the cross-fire who got shot, and those who were picking up bullet shells."

Although Alan and his group never feared for their safety, the constant presence of firearms was unnerving.

"Everyone had a gun: all military personnel carried guns, most civilians either had a gun at home or carried a gun on their body, or had one in the car," he said.

"Guards openly carried guns in the streets, and patrolled supermarkets and take-away places to deter thieves."

Meanwhile poverty, desperation and lack of government controls over logging in forests have resulted in serious land deprivation.

"At the end of World War II, 90 per cent of the

Philippines was tropical rainforest," said Alan.

"Illegal logging by armed bandits has left very few areas of forest. Almost every inch of the country has been turned, leaving only five per cent of Filipino native forest untouched."

Alan said even the national parks have been stripped of vegetation by squatter farmers who log the land.

"If the extensive logging over a period of 50 years had not occurred after the last war, the Philippines would be a tropical paradise today," he said.

Alan visited a populated area in the Philippines called Smoky Mountain. He said the people are quite happy to live at the base of the mountain despite the fact that it is a mountainous pile of rubbish which smoulders and produces acrid smoke.

In comparison, a visit to President Marcos's palace depicted life at the other end of the scale.

"Marcos's palace is bigger than Buckingham Palace! The current president, Cory Aquino, refuses to live there so now it is open to the public," said Alan.

After his stay in the Philippines, Alan spent another six months travelling through the United States of America before returning to Collie.

Reprinted courtesy of the *Collie Mail*



Fire Protection's Hot Shots team member Barry Snowdon takes off on the cycle leg



Mapping Maniacs canoeists Keith Mungham and Paul Davies leap into action for the canoe leg.

A wild week



Inventree Mob's Matt Reynolds races for the finish line after completing the swim.

Story and photographs
by
**Tanya Maxted,
Carolyn Thomson and
Steve Murnane**

Alan Sands presents Entrophy team member Debbie Bowra with the Derriere Award

PEMBERTON: "Mapping Maniacs" won this year's Big Brook Relay with a powerful swim finish.

The mad mappers leapt from fourth place in last year's relay to beat "Inventree Mob" (second), "Wreckreation & P & E" (third) and "Farnarklers" (fourth). "Entropy" from Murdoch House won the Derriere Award for last place.

Twenty teams competed in the relay - held at the Big Brook Dam in Pemberton on November 3 - organised by Pemberton district.

For the event, the teams each fielded two cross-cut sawers, a runner, two canoeists, a cyclist and a swimmer.

In the cross-cut 'arena', teams sawed their way - five times - through a debarked log. Fastest team for the cross-cut was "Harvey Not-So-Fresh" in

2 mins 10 secs, followed by "Kwik Pots" in 2 min 31 secs and "Inventree Mob" in 3 mins.

Next was the run, around a 7km lap of the dam. "Inventree Mob" and "Shortcuts" recorded the fastest time of 27 mins 32 secs.

Canoeists then took to the dam waters, completing a 3 km circuit. Fastest team was "Kods" with 20 mins 20 secs ("Southerners" recorded 19 mins 51 secs), followed by "Shortcuts" in 20 mins 55 secs and "Mapping Maniacs" in 20 mins 58 secs.

Cyclists pedalled a 12 km circuit around the dam, the fastest team recording 26 mins 25 secs ("Wreckreation & P & E"), followed by "Farnarklers" in 26 mins 50 secs and "Kods" in 28 mins 30 secs.

Swimmers dashed to the water and swam a 1 km trian-

gle course - "Mapping Maniacs" finishing in 10 mins 52 secs. "Lib-Orators" were second-fastest in 11 mins 1 sec, followed by "Wreckreation & P & E" in 11 mins 28 secs.

While there was serious competition among the fitter teams, there were those who were happy just to finish.

Final results: "Mapping Maniacs" (1), "Inventree Mob" (2), "Wreckreation & P & E" (3), "Farnarklers" (4), "Shortcuts" (5), "Lib-orators" (6), "Kods" (7), "Buggers and Burners" (8), "Harvey Not-So-Fresh" (9), "Kwik Pots" (10), "Tordit-Garrup Turtles" (11), "Dead CALM" (12), "Golden Wattle Eagles" (13), "Wheatbelt Woylies" (14), "Floosies" (15), "Regional Bards" (16), "Hot Shots" (17), "Entropy" (18). "Southerners" and "Bunbelton Bullets" were disqualified.



The Short Cuts team saw another ring in their log in the first event of the relay. From left are Paul Blechynden, Bill Cuthbert and Peter Gibson.



Raking broken glass was Australian Conservation Volunteer Gerry Lavell.



Broken glass by the barrow load! Richard Eaton from Boulder Lions Club pushes while Ben Carr from Australian Conservation Volunteers rakes.

Weekend with CALM

by Andrew Chapman

KALGOORLIE: The much-publicised Wallaroo Rock clean-up weekend eventually happened on November 3 and 4. The Saturday morning dawned fine and still with the promise of a hot day to follow. How different from the previous attempt four weeks earlier, which was cancelled, when 50 mm of rain and a cold westerly wind conspired against us and even thwarted Roger Underwood - but that is another story, involving a bogged vehicle, a bottle of scotch and a muddy dog!

Wallaroo Rock is a large granite outcrop in CALM's Goldfields Region, about 80 km north-west of Coolgardie.

The area is proposed as a reserve due to its scenic and conservation values as well as its potential for camping, swimming and yabbing.

There are three dams of historical interest, that were constructed to provide fresh water for steam locomotives in the days of woodline operations.

Unfortunately the area has been degraded by use and mis-use, particularly the worst accumulation of rubbish ever seen by this correspondent, including 10 three-tonne truckloads of bottles, cans and general rubbish, six car bodies, two massive tandem-axle bus chassis, an old shed and 12 wheelbarrow loads of broken glass.

This neglect had led to a barrage of complaints to CALM, the WA Water Authority, the Shire of Coolgardie and the local tourist bureau,



The three-tonne truck worked extremely hard. CALM staff on the job were Darren Ryder and Geoff Rolland.

but as an unvested reserve no one had the responsibility for care and maintenance.

CALM Goldfields staff - acting as volunteers themselves, of course - decided to co-ordinate the clean-up as the region's inaugural Community Involvement Project under our new policy.

The Shire of Coolgardie contributed heavy machinery and staff for digging rubbish holes and disposing of car bodies. Local businesses donated equipment, including wool bales and frames and high pressure hosing gear, for the operation. There was widespread support from a broad section of the community.

The event had memorable moments. The two worst were removing overgrown, overflowing 200 litre rubbish bins which had not been emptied for 20 years - only to have the bottoms fall out...and the only way to retrieve rubbish was by grovelling on hands and knees under prickly vegetation!

Also not much fun was raking, sweeping and hand-picking broken glass by the barrow load off the rock in hundred degree heat. However, declining spirits were revived on Saturday by a swim in the dam and refreshments provided by CALM's General Manager.

CALM staff also took the opportunity to do some pit-trapping and spotlighting to give volunteers some insights into wildlife survey techniques, and show them some of the natural history of the area they were helping to maintain.

The challenge to CALM and the community is to encourage users of the area to have some pride in it and remove their own rubbish, because it is NOT our intention to provide rubbish bins. The ultimate fate of the area as a CALM-managed reserve is dependent upon negotiations on tenure, access and maintenance with other government departments and the Shire of Coolgardie.



Some volunteers start young! CALM Goldfields regional manager Ian Kealley with son Phillip.



In spite of the difficulties, a friendly mood prevailed: Sandra Prossman and Paul Tyson from Australian Conservation Volunteers.

Australian Timber Congress

Premier Carmen Lawrence's Opening Speech

The following is the full text of the Premier's speech to the 13th Australian Timber Congress, held in Perth.

After two days of deliberating on various aspects of sustainability, and the application of sustainability principles to forestry practices, it is appropriate for me to focus on the local scene, because I think it is instructive for our interstate and overseas guests.

In addressing this topic I intend to examine the impact that ecologically sustainable forestry is having on the timber industry here.

First of all, I must say to you that life in politics is full of surprises. In fact, every day I wake up and there is another one.

After pursuing a forestry management policy which has delivered a great deal to each of the sectors with an interest in forestry, the State Government, and indeed the Government department involved, I think didn't anticipate the public brouhaha on forestry matters which broke out earlier this year.

It wasn't that we presumed ourselves to be the repository of all wisdom on forestry matters, as I am sure you've heard people are always trying to learn and improve their performance, but we did think that the principles on which we had founded our new approach to forestry were sound and shouldn't have left much room for criticism. None the less, that criticism is necessary and it needs to be responded to.

Having said that, I must emphasise that we have never presumed that there is no room for improvement. We do believe the fundamentals are, however, in place and are well understood and accepted.

When a new approach to forest management was mooted in Western Australia in 1984, we had a plethora of land management agencies all vying, in a fairly unproductive way, for limited financial resources to carry out work on wildlife protection, forest and national park management.

The first stage of our changes was to bring all these agencies together to create a department of conservation and land management - CALM as it's known here - with the responsibility of ensuring that forests were treated as more than just a crop to be harvested, regenerated and harvested again; rather, they were to be seen as dynamic systems with many potential uses, of which timber production was but one.

Two independent statutory bodies - the National Parks and Nature Conservation Authority, and the Lands and Forest Commission were created to oversee CALM's policy development and management practices. All national parks, nature reserves and State forests were vested in those two bodies.

The practical benefits of these new arrangements were obvious, I think, even before they were fully established: and I can outline them for you briefly:

For the first time, the

agencies responsible for the protection of our flora and fauna, national parks and forests were to be allies and not competitors. The Directors of National Parks, Nature Conservation and Research would share the setting of management objectives and procedures with the Director of Forests.

Secondly: research which had been comparatively well funded in forestry was virtually non-existent in national park areas. The imbalance could be quickly redressed, and, in my view, has been, to a large extent.

Thirdly: a regional structure could be developed to ensure that management was located close to service delivery bases, and in particular to enable services to be provided to conservation areas in the more remote parts of the State. Always a problem.

Fourthly, officers of the Department would be available to carry out a range of tasks in any of the land under the Department's management. In effect, the Department's workforce would develop multiple skills. A "catchery" that's become, perhaps, more prevalent since that time.

And finally, the new department could provide an integrated land management and policy development service to the two independent statutory authorities in which conservation lands and State forests would be vested.

In 1987, three years after the establishment of CALM, there was a watershed year for environmental protection in Western Australia. For the first time, the future use of Western Australia's south west forests was clearly delineated.

Draft Management Plans for the State's three forest regions and a draft Timber Production Strategy were released.

As well as dealing with timber production, they also examined and made recommendations on flora and fauna conservation, the protection of scenic beauty, the protection of water courses and catchments, and on recreation; and they took account of historical and cultural features, and minor resources, such as roading gravel, commercial wildflower collection and honey production.

To fail to consult adequately with the general public and interest groups when proposing changes of this kind was no less dangerous in 1987 than it is today.

Through a series of newspaper inserts, a video production, pamphlets, advertisements, an enquiry hotline, public meetings and mailouts to specific interest groups, CALM conducted the most extensive consultation that has occurred in Western Australia on a land management planning issue.

It was clear from the majority of the 4000 written submissions received that the general approach proposed to provide for both forest conservation areas and a resource for the timber industry was well received,

Not to say there weren't some critics, but generally speaking.

The final Management Plans and Timber Production Strategy incorporated many of the suggestions made during the public comment period, so it was a productive partnership.

One of the major achievements of the final Management Plans was the identification of areas to be included in conservation reserves. While creation of all of the reserves is still continuing, all areas identified for reservation are being managed for that purpose in the interim. When the reserve system has been completed, there will have been a 340 per cent increase in the conservation estate of the south-west, that is an increase of some 550,000 hectares. Many of the reserves, such as the Shannon River basin, have been made into national parks.

Areas which do not have national significance will become conservation parks when the necessary legislation presently before Parliament has been passed. Those areas of significance for conservation of wildlife will become nature reserves.

The creation of the reserve system also includes forested buffers of roads, rivers and streams throughout the remainder of the State's forests.

Although a great deal of the work has already been done to implement the decisions represented by the Forest Management Plans, they are required to be fully implemented within ten years.

The balance which has been achieved in this State between conservation and use of our forests has been achieved by putting into practice the principles of sustainable development in the spirit of the National Conservation Strategy.

The unreserved forests are being managed according to the principle of multiple use, including timber harvesting. Analysis over many years has shown that even with the reserve system, commercial use of the south-west forests can be sustained.

CALM has identified, quite properly, a set of requirements for ecologically sustainable forestry in Western Australia.

Principles of Sustainable Forestry

The first principle is, the productivity of the soil must be maintained.

CALM is presently ensuring this through scrutiny of nutrient recycling patterns derived from research carried out by the CSIRO, CALM and our tertiary institutions, and I must say there is an excellent partnership between them. CALM is also ensuring that disturbed sites are properly rehabilitated, that quarantine measures are in place to control dieback, and that wildfire events are minimised through controlled burning. Additionally, the Department is committed to tree planting programs on salt-affected catchments, so that soil quality will eventually be restored.

Bob (Pearce) mentioned my history in the northern reaches of the Wheatbelt area, and what was clear to me as a child was that there was no respect at all for the role that timber played in soil conservation and agriculture. My father and his colleagues, who were not orphans in this, thought that the best practice they would use was simply to hook up the two bulldozers with a chain and go through everything they could knock over. They are now reaping the harvest for that, or the next generation is, so I appreciate that principle, which is a very critical one, particularly in our more fragile areas.

The second principle is that the diversity of wildlife assemblages must be protected.

Extensive long-term studies of Western Australia's forests have shown that no plant or animal species has been endangered through forest management practices. I know there will be argument about that, but it needs to be a question that is closely monitored. On the contrary, if forest management practices such as controlled fuel reduction burns were not carried out, some of our rare mammals, such as the numbat, tammar wallaby and woylie, whose habitats have been severely reduced through agricultural land clearing, could suffer a complete habitat loss through wildfire. The control of introduced predators, such as foxes, is also essential to the survival of our rare mammals. We have in this State a fairly comprehensive program to attempt to eradicate those pests.

The next principle is the genetic diversity of all components of the forest ecosystem must be maintained. CALM attempts to achieve this through the provision of a representative and secure conservation reserve system, specifically managed for the whole range of nature conservation. Although a great deal is still to be learned about the ecology of our forests and the precise requirements of particular species, research to date indicates that timber harvesting and prescribed fire should not adversely affect the genetic diversity of our forest ecosystems. But again it is an area which requires constant vigilance and research.

The next principle is that the health of forest ecosystems must be protected. This is being achieved for the State through the provision of extensive and representative systems of nature conservation reserves I described earlier, and the application of wildlife conservation strategies in the multiple use forests. Ongoing research is also proceeding into forest diseases, the impact and control of insect damage, and the application of management techniques to minimise the risk of wildfires.

Control and monitoring of dieback in the jarrah forest remains a high priority, although it is important to emphasise that CALM be-

lieves we have now seen the major impact of dieback on jarrah forest ecosystems. I am sure that is a point of view we would all like to endorse, and I hope indeed that it is correct. Although jarrah dieback has meant some site vegetation types have been considerably reduced and may never fully recover their diversity and structure, others have been largely unaffected. But again it is an area where constant vigilance is required.

The final principle is that there should be sustained yield of forest products.

Sustaining the timber yield is a fundamental principle of the State's Timber Strategy. It involves arranging the harvests of timber in a sequence which ensures that the range of product sizes is available each year. The level of annual yield is sustainable if the rate of harvest at least equals the rate of growth of trees into the desirable log size categories. However, this yield can only be sustained if the age distribution of the forests is balanced so there are equal areas of forest of each age class available annually for harvesting.

Overall, the growth rate of our multiple use forests greatly exceeds the annual timber harvest, assuring long-term timber supplies from State forests.

The 1987 Timber Strategy provided, I think, a blueprint for regulating sawlog yields to meet requirements for sustainability. Particularly important were:

- progressive reductions in the level of sawlog harvest to help balance age class distributions;
- improvements in log utilisation and I am told that over the past five years these have resulted in a 40 per cent reduction in the area of forest which otherwise would have been cut during that period using less efficient techniques;
- the development of new technology to increase the utilisation of thinnings from regrowth forests;
- the substitution of pine logs for hardwood, where appropriate, to reduce further the demand for sawlogs from native forest;
- and a new royalty structure which has been introduced to cover the cost of production of the logs, improve use of lower grade logs, and provide a fair profit to the State.

Regional economic stability, which is essential, must be created.

The long-term supply contracts introduced through the Timber Strategy have enabled significant industry restructuring and investment, both by major users and small sawmillers.

When the restructuring process has been completed, the State's timber industry will have access to a range of forest produce which will allow for greater flexibility in the face of sectoral market downturns, one of which we are seeing right now. This process should provide increased security of employment to the 30,000 West Australians who rely on the industry,

both directly and indirectly, for their livelihoods.

So far, I have been talking about the management of native forests. But we're not content for the timber industry to be totally reliant on these. Indeed, in the long-term I don't believe that we can.

In addition to the improved management of native forests, the Government has encouraged CALM's softwood sharefarming scheme and timber shelterbelt sharefarming project, both of which will continue to reduce pressure on native forests, provide a new resource base, and in the case of the shelterbelt scheme, improve farm productivity.

The most remarkable aspect of the change in Western Australia is the extremely short time it has taken to implement the new departmental structure and management strategies. The three years following the introduction of the Timber Strategy and Forest Management Plans saw a remarkable lack of contention as national parks were created and reserves defined, and as industry adjusted to the supply guarantees allocated under the Timber Strategy.

Although the present downturn in the building industry has caused investment to be put on hold, we believe it is vital for the Timber industry to know that long-term supply is guaranteed.

Forestry Issues

You may wonder then, perhaps, at the criticism of management and the industry which occurred earlier this year. Most of you will know of the lengths to which CALM went to examine and respond to the criticisms.

Indeed some people suggested that Syd Shea should have been given a medal for his response, it was so comprehensive. Whatever one's views of those criticisms, whichever side of the fence one sits, I think it has emerged from this examination that problems in the management process that may have been identified are not the fundamental issues that I have outlined here, and the basic framework has been identified and is judged to be working.

Some issues continue to be the subject of public debate, and should be: clear-felling practices, coupe sizes, the timing and intensity of fuel reduction burns, variations to road, river and stream buffers, and the percentage of old growth forest in existing reserves.

There will always be a need for such debate and there will always be a need for land management practices to be monitored and adjustments made as we learn more. We can't be complacent to ignorance, and interest groups and the general public have important roles to play in this process.

We are committed to public consultation in the management of public lands. But, equally, we are committed to basing our management practices on the

findings of ongoing scientific research. We need to be dispassionate in what can be a very passionate area.

The most important point is that we now have a secure framework for sustainable growth, within which both industry and conservationists can debate and resolve outstanding issues.

The question of our most important old growth forests being protected in reserves is presently being explored jointly by CALM and the Australian Heritage Commission. It is ironic to find that after being unjustly criticised for an alleged failure to co-operate with the Heritage Commission, CALM is now being criticised by some in the timber industry for agreeing to join with the Commission, in identifying areas of heritage significance. It's an area where, in some cases you are damned if you do and damned if you don't, but I think that cooperation is essential.

The need for greater co-operation between the States and the Commonwealth was highlighted at the recent Special Premiers' Conference in Brisbane. Of particular importance to the timber industry was the recognition that resource security may require joint State/Commonwealth legislation where it is requested by the States, and, indeed, I am sure that would assist the industry as well as the Conservation Groups.

The Government will take advice from CALM and the timber industry on the need for legislation to secure a sustainable resource base for the industry. Because of the balance which has been achieved to date, and because of CALM's co-operation with the Australian Heritage Commission, we can ensure that any legislation does not impinge on our commitment to forest conservation. Indeed, it must not.

With a solid framework for forest management in place, we should start to concentrate more attention on other, and very pressing environmental issues - such as the degradation of much of our farming and pastoral land, the loss of wetlands, and the rate of extinction of Australian mammals - and with those issues that need to be addressed in relation to forest management as well.

We need to get things into perspective. Governments in Australia, the forest industry and the conservation movement should join together to remind the public:

- First, that compared to alternatives such as steel, plastics or aluminium, timber is environmentally sound;

- Secondly, that governments and industry grow and harvest forests in an attempt to meet public demand, which in Australia still requires us to import \$2 billion worth of forest product annually;

- And thirdly, that it is far better to use timber from well-managed Australian forests, where every tree cut is regrown, and that

Continued on page 7

A 160 Kilometre survival walk



Eight adventurous walkers — June Ellis is seated on right — photo June Ellis.

June Ellis

Although it's not widely known, CALM offers basic and advanced outback safety and bushcraft courses. These courses are conducted by outdoor educationalist, Bob Cooper.

After obtaining the basic survival certificate, the unwary can then choose to join more advanced courses run by Bob each year.

It was with enormous apprehension that I recently joined a group of seven other 'adventurers' making the long haul north by road to Millstream-Chichester National Park to undertake the Pilbara trek.

After two days travelling, we arrived at Millstream, marvelling at its unique, fresh-water springs and oasis-like palm groves. After a refreshing swim at Deep Reach, we were ready to start 'Walk'.

Described in the list of courses as 'an arduous eight-day survival walk' it is, in fact, 160 km through Chichester Range to the coast - without supplies or any home comforts!

From close to Millstream, and led by Bob Cooper, we set off over low spinifex hills to walk the 15 km into Chichester Range. We were allowed to carry only water, Bob's famous

survival kit and small supplies of tea bags and oxo cubes (in my case, veggie cubes). This section was hot and fast, but we took time to pick and sample 'bush coconuts', and collected a few to take with us. The first thing I learned about myself was that I dehydrate quickly; however, an overnight camp by rock pools in a magnificent gorge soon revived me.

The next day was spent walking through the gorge, picking our way over the boulder-strewn, dry riverbed, negotiating picturesque rock pools with crystal-clear water, and disturbing the occasional shy kangaroo. An extended mid-day break at a large pool was much appreciated and several of our group spent time fishing for catfish.

From my diary, I read that "Day three was hot by 8 am, breakfast was tea and onion soup, and I washed my clothes and swam." This was the day we left the protection of the gorge and rock pools, turning onto the open spinifex plains.

My memories of the four days it took to cross the plains to the coast are a haze of long hours walking, both day and night (to avoid the heat), of becoming dehydrated several times, and of the starkness of the landscape. Day three was also

the last entry in my diary, as from then on all my energy was channelled into keeping up, walking, drinking and sleeping.

Once we were safely clear of the Chichester Range, Bob Cooper left the group. From here on, he appeared when least expected, checked that all was well, then disappeared again.

The route taken was from stock well to stock well, each of us carrying sufficient water (approximately four litres) to retrace our steps should a pump not be working or a tank be empty. Thanks to the expert navigational skills of Ollie and John we arrived safely at each waterhole, and eventually reached the banks of a large river at 7:30 am on Day five.

Here there were magnificent ancient river gums - gnarled, twisted and huge. A pair of swans glided effortlessly, one softly calling the other; truly a magic moment! We took time to replenish water supplies, gather handfuls of mussels from the water's edge and enjoy the tranquillity of our surroundings. Onward once again along a rocky, mostly dry riverbed to our next extended break - a pool called Wandawakarena!

Day six: spinifex again, hot and arid. We walked for 40 minutes and rested for

10, this being the pattern for the whole distance. One vivid memory of this day was that a mob of cattle started to congregate on either side of us. They reminded me of the young bulls of Pamplona, with stomping hooves and tossing heads - complete with horns! On open ground, with no protection, it crossed my mind that we'd walked all this way just to be trampled into the dust! However, Doug (our retired farmer) waved his hat, shouted, and off they ran, from then on keeping their distance.

Eventually it was dawn of Day seven. We had walked overnight, sleeping for one hour before dawn. Facing the final section, comprising estuaries, mudflats and mangroves, our one and only hiccup was about to occur.

We had mistaken the estuary that would set our course to the coast. For four hours we crossed and re-crossed wide tidal waterways, knee-deep in mud and water, the cool dawn soon a hot mid-morning. At last our navigators, in their wisdom, set us on the right course and we made our weary way to the coast.

Had we really finished? Could we actually stop walking? Bob and support crew member Carolyn were waiting at the beach, tape stretched across our path and an 'esky' of cool drinks on hand - another magic moment.

Hot showers awaited us at a shearers' quarters, then tea and scones at one station and a barbecue at another (our first meal in seven days). Great hospitality was shown to the group, although everyone declared us all mad! We stayed at Whim Creek Hotel, then had breakfast at Curlewis Camp. We saw Aboriginal rock paintings and magnificent roadside flora as we made our way south. A great wind-down to an incredible experience.

There is talk that the next walk will be in crocodile country - well now...



Plant Identification Course

by Sue Patrick

In October, a group of CALM officers met at the Kelmscott Regional Office for a two-day plant identification course.

This was a pilot course organised by regional ecologist Sue Moore, and run by Sue Patrick, a research scientist at the Herbarium, with assistance from Ray Cranfield, Herbarium senior technician, as part of the flora information program.

Fifteen staff, from Kelmscott, Mundaring, Jarrahdale, Wanneroo and Dwellingup offices, and from Serpentine, John Forrest and Yanchep National Parks, took part in the course.

There were three main aims to the course. They were to provide staff of the region with training which would aid them in the identification of the Declared Threatened Flora; to help compile and maintain local field herbaria; and to enable them to answer general public enquiries.

For some participants, it was a refresher course in skills and knowledge gained during earlier training, while for others it was an initiation into the complexities of flower structure and botanical terms. At times, the large table in the meeting room was almost submerged under heaps of dismembered plants, which had been provided for study and dissection, mainly from the gardens at the Herbarium.

Training was given in the use of identification keys. Plants were tracked down to genus and sometimes species level, so that difficulties in the use of such keys could be explained and overcome. In some cases, however, it became obvious that the plants themselves had not read the rules!

Other topics covered during the two days included the collection of specimens, sources of botanical information, and nomenclature and pronunciation. The group looked in particular detail at the three plant families most prominent in Western Australia: Proteaceae, Myrtaceae and Leguminosae.

Complete plant identification cannot be taught in such a short time, but those who took part gained confidence in tackling the identification of their own specimens, and learned how to avoid some of the pitfalls that tend to discourage new users of identification keys. For those interested in more information about plant identification, Les Robson will be providing training on the declared and priority species in the Northern Forest Region. Other aids to plant identification include recent CALM publications such as *Western Australia's Endangered Flora* and the *Wildlife Management Plan No 5*.

The community reference herbarium at the WA Herbarium can also be a very useful resource, becoming more so as new species are added to supplement the original 5,500 specimens.

Environmental tourism study

by Ross Dowling
Environmental Science, Murdoch University

The relationship between tourism and the environment in the Gascoyne Region is the focus of a three-year study by Environmental Science researchers at Murdoch University.

Funded by CALM and the WA Tourism Commission (WATC), researchers aim to establish a regional planning framework to foster environmentally compatible tourism in the area.

The study's focus - the Gascoyne Region - includes the shires of Shark Bay, Carnarvon and Exmouth. Tourism is taking off in all these places, with many new accommodation developments and activities.

New accommodation developments include the Monkey Mia Dolphin Resort, Nanga Bay motel complex, and the upgrade of the Potshot Hotel to a resort.

Innovative activities include glass-bottom boat trips to the floating pearl farm at Monkey Mia, feral goat hunting safaris in outback Carnarvon, and coral spawning and whale watching tours in Exmouth Gulf.

According to researcher Ross Dowling, the study will determine highly valued environmental aspects of the area, survey resident and tourist opinion, and develop a plan for the region which promotes tourism development while maintaining environmental quality.

Research to date has concentrated on opinion-gathering. Ross said that resulting information will be

invaluable to both CALM and the WATC in coordinating future tourism developments and activities.

So far this year 284 residents and 252 tourists have been surveyed by face-to-face interview using a six-page questionnaire.

Ross said that both residents and tourists recognised and appreciated the Gascoyne Region's unique natural features. They strongly advocated the need for greater protection of the environment, he said, and suggested that it could be achieved through greater on-site management, interpretation and education.

There was also support for establishing more protected areas such as the recently announced Shark Bay National Park (Peron Peninsula), Marine Park, and Nature Reserve (Hamelin Pool).

Adverse environmental impacts which were of concern related to litter, over-fishing and fishing of under-sized fish, 4WD, indiscriminate camping, and pollution from motorboats and the Carnarvon hovercraft.

Residents strongly supported tourism and pointed to both positive social and economic benefits, Ross said. Both residents and tourists submitted that tourism was the most environmentally compatible commercial activity ahead of pastoralism, commercial fishing and mining. They strongly advocated the integration of regional tourism development with conservation and land management.

This sustainable development approach favours low-key tourist developments concentrated in exist-

ing urban areas. Large-scale developments were not endorsed, but there was moderate support for marinas (by residents) and resorts (by tourists).

Ross said that preferred areas for development were the existing ones of Denham, Nanga Bay, Carnarvon, Exmouth and Coral Bay. There was ambivalence about Monkey Mia, the Blowholes and Yardie Creek, all of which attract support for both environmental protection as well as tourism development.

A variety of environmentally compatible tourist activities were suggested, including photographic tours, fishing, diving, windsurfing and camping. Other activities supported to a lesser extent included cycling, canoeing, yachting, wildlife tours and the establishment of heritage trails.

Four wheel drive vehicle activities or hire were not supported.

In 1984 about 10,000 people visited Shark Bay. Last year it attracted 150,000 tourists, of whom 115,000 visited the dolphins at Monkey Mia.

Most tourists within the Gascoyne region are Western Australians on holiday.

Ross said that while many people felt this attraction had reached its social and environmental carrying capacity, many other opportunities abounded in the region for tourism possibilities.

Any new venture, he said, would need to take into account that environmentally compatible tourism developments and activities are not only preferred, but expected in future.



Stephen van Leeuwen of CALM accepting the CRA's Rudall River herbarium collection from Bruce Harvey (right).

CRA Donations

Four hundred plant specimens were recently donated to the Pilbara Region's herbarium by CRA Exploration.

The specimens had been collected from the Rudall River area and form the basis for the first flora list of the national park.

CALM officer-in-charge of the herbarium, Stephen van Leeuwen.

Stephen said that it included species which had not previously been collected within the State, as well as numerous specimens which appeared to be poorly known or new to science. The herbarium is located on the campus of Karratha College, and is jointly operated by CALM's Research Divi-

sion and the Pilbara Region Operations Division, in conjunction with Karratha College.

CRA principal geologist Bruce Harvey said the plant collection was an integral part of the company's environmental research and monitoring program.

Mr Harvey thanked CALM's research staff, especially Bruce Maslin and Paul Wilson from the WA Herbarium, for their assistance in identifying some of the specimens.

The handing-over ceremony was held at the Pilbara Region's herbarium and was attended by staff from CALM, the Mines Department, Karratha College and the media.

Premier's speech cont.

is absolutely essential, than to lock up our own forests while plundering the forests of developing countries, particularly those with rainforests.

In closing, I would like to assure the local industry, and its employees, that we are deeply concerned at your present plight. There are no quick fixes to the economic downturn we are experiencing, but the State Government is committed to ensuring that the predicted economic turn-around is brought on as early as possible, and the Minister responsible for Conservation and Land Management has briefly put a number of options to Cabinet to assist the industry, and they will be

Death investigated

A post-mortem showed that a sea lion found on the South Coast recently died from severe blood loss caused by a gunshot wound.

CALM Wildlife officers removed the body of the adult male sea lion from Oyster Harbour at Albany and placed it in cold storage over the weekend.

Sea lions are protected under the Wildlife Conservation Act and it is illegal to harm them.

considered further in the ensuing weeks.

Once that turn-around occurs, as I believe it will, you will again reap the benefits of the system now in place, and I commend you on the excellent work that has been done by all the players, in this all-important area, to achieve sustainable development by the departments, by Government, by Conservation Groups and Industry. I know that has been the theme of your discussion in the last couple of days and I understand that you have achieved good debate and good consensus on a range of matters that otherwise might be the subject of some fairly unhelpful confrontation.

There is a maximum penalty of \$10,000 for killing this species.

Wildlife officers in the Albany District are now investigating the matter further.

The Australian sea lion is a protected species and recent surveys indicate that there are only 900 on WA's western coast and 2,200 animals on the southern coast.

26 Species taken from WA's endangered list

The list of WA's threatened fauna has been reviewed and there is some good news - 26 animals have been taken off the list after recent surveys showed that they are not as rare as previously believed.

However, a further 17 species needed to be added.

CALM has completed a comprehensive review of the list, in consultation with the WA Museum and other experts.

Threatened fauna is defined under the Wildlife Conservation Act as either rare or likely to become extinct.

The central hare-wallaby and lesser bilby have been

added to the list of threatened species, as recent research has shown that they both occurred in WA until well into this century. However, both may well be extinct.

The southern brown bandicoot, once fairly common, has been added to the list, as it has disappeared from parts of the Wheatbelt and parts of the northern jarrah forest in the last 20 years. It is in the critical weight range of mammals that have shown high rates of decline and extinction.

Two frogs only recently discovered, and found in very restricted habitat in South-West forests, have

also been added to the threatened list. They are the white-bellied and yellow-bellied frogs.

Another addition is the Gouldian finch. This spectacular finch is declining rapidly in numbers and is endangered throughout its range in northern Australia.

Recent research in the Northern Territory, sponsored by World Wide Fund for Nature Australia, shows that Gouldian finches breed only in a few areas and that the wild population is parasitised by an air-sac mite.

Carnaby's black cockatoo, which is increasingly rare and in demand as a cage bird, has been included on

the specially protected list. It is attracting high prices and is illegally taken each year from nesting sites in the northern Wheatbelt.

However, the dugong is no longer considered to be threatened, since a recent survey showed the species present in reasonably high numbers in Shark Bay. It has been added to the list of specially protected fauna.

The maximum fine for illegally "taking" fauna, classed either as threatened or in need of special protection, is \$10,000.

Copies of the new list can be obtained from the Wildlife Protection Branch at Como.



Kaylene McPherson and Katy Smith with the reels and the equivalent high density cartridge.

High density computer

by PETE WALSH

Computer Services recently acquired a high-density backup device for taking copies of information stored on the Vax systems.

These copies (or data backups) are an integral part of computer operations, particularly in the event of information storage device breakdowns, or other disasters within the installation which may severely damage information on the system.

By taking nightly

backups to magnetic tape of all information stored in a system, it's possible to recover quickly from any form of potential disaster.

A good example is the 'crash' that left us without the Concurrent Mainframe for two days earlier this year.

Without a well-planned backup schedule, the Department would have lost at least one week of computing work (is that a sigh of relief from Accounts Branch - or is it Timber Production!).

Due to the large increase in information storage requirements on the Vax System, Computer Services has invested in a high density

tape backup device. In the past, reel-to-reel tape was used. The new device uses small cassette-size video tapes, while actually storing 10 times the amount of information.

A single video tape can hold the equivalent of 500,000 A4 pages of information!

This represents significant cost savings to the Department.

While the cost of a single video tape is around \$20, the equivalent number of reel-to-reel tapes costs \$400.

So, does anyone need any (now redundant) reel-to-reel tapes?!



The quenda one of WA's endangered species.

Wheatbelt wildflowers

by Paul Brown

Spring! The sun was shining, crops growing, the wildflowers were in full bloom across the wheatbelt and botanists were out in force. Over September, CALM staff at Merredin were introduced to the enthusiasm and skills of local botanists from the Mukinbudin Wildflower Society, who are assisting the Department with vegetation surveys and locating new populations of rare flora.

Ten members of the Mukinbudin Wildflower Society spent a day with District staff collecting and recording the flora of Lake Campion Nature Reserve, 30 km north of Merredin. The reserve was intensively surveyed in autumn 1990 by contract botanist Anne Coates, and our aim this time was to collect flowering material and the annual plants which Anne was unable to collect.

We broke up into two groups, one to collect in the open woodlands on the higher ground and the other over the dune communities which border the salt lakes.

We collected just under 200 flowering plants. A surprise to some - the dune community was much more diverse than the woodlands. Many of the species were named in the field by Wildflower Society members, reducing office work for CALM staff.

Much of the State's rare flora occurs in the cleared wheat-growing areas, and the Mukinbudin district is no exception.

Local Mukinbudin Wildflower Society members Mary Squire and Rodney and Elaine Boyce showed CALM staff seven new populations of gazetted rare flora, of which CALM had no previous record. These included one of the largest populations yet known of *prostanthera magnifica*, four new populations of *Boronia adamsiana*, one of *eremophila virens* and one of *eucalyptus brevipes*.

Merredin staff found working with the members of the Mukinbudin Wildflower Society very enjoyable, and everyone agreed nature conservation in the Wheatbelt would benefit from such co-operation.

Reclassification

by Robert Powell

In April 1988 I was given the task of coordinating a review of Class B and C nature reserves and national parks.

This was in response to one of the Government's proposals following the Bailey Committee Report on mining and the environment that nature reserves and national parks of Class B or C be individually reviewed, and that those of conservation value be reclassified as Class A.

To assess each of the 930 nature reserves and 18 national parks that at the time were Class B or Class C, a list of 22 criteria, ranked in order of importance, was used.

For each reserve the numbers of the criteria it was

known to satisfy were recorded, as well as a simple code to denote the reserve's condition.

Only 49 reserves were identified as being of doubtful value; the rest were found to be worthy of retaining for conservation, and hence of reclassification as Class A.

In August 1988 an initial list of 53 reserves was referred to the then Minister for CALM for submission to the State Cabinet.

Since then there have been several more lists, and to date 586 reserves have been approved for reclassification. Of these, 338 have been fully processed, and are now Class A.

The 49 reserves whose conservation value was assessed to be of some doubt are to be considered further before firm decisions are made on their future.

Advisory Committee

An advisory committee has been formed for the Leeuwin-Naturaliste National Park. The committee will advise CALM on implementation of the management plan, and provide a two-way flow of information on the park between the community and CALM. Central Forest regional manager Don Spriggins said that combining CALM's professional expertise with the wider community perspective is crucial, particularly for the management of conservation lands.

The first meeting es-

tablished the committee's role, introduced the management plan for the Leeuwin-Naturaliste National Park, and discussed recent works in the park at places such as Contos, Redgate and Ellensbrook. Development works costing around \$700,000 have made significant progress toward recommendations made in the plan.

Mr Spriggins said that the interest and contribution of members of the committee at the inaugural meeting showed that they had been well chosen.

Equal opportunities

What is an impairment or disability? For some people, severe headaches can be a real impediment; for others, loss of sight or a limb is not. Finding a definition of impairment or disability is difficult.

At CALM, defining what exactly is an impairment is not important when it comes to hiring people. If you can do the job, that is what counts. One person who does her job well is Michelle Griffin at Como. Many of us have spoken to Michelle at some point; she is the afternoon switchboard operator. But few people on the other end of the telephone realise that Michelle is visually impaired.

Michelle began work on the switchboard at CALM

two and a half years ago. She trained on the job with the help of the Commonwealth Department of Community Services' Supported Employment Program. There were some initial problems - such as reading the internal telephone book. But here the Association for the Blind helped out by taking the existing phone directory and printing it in Braille for Michelle. Another necessary aid was a computer with Braille keys that responds by "speaking". With this computer Michelle is able to keep updating the telephone directory, and keep note of any messages or information she needs.

Despite her impairment, Michelle has no trouble taking the bus to work each

day. Nor does it interfere with her leisure activities - Michelle is a golfer and also enjoys 10-pin bowling.

Michelle does have a special technique for dealing with difficult callers: "I kill 'em with kindness."

Did you know...?

- that 15.6% of Australians have a disability...?
- that recent research indicates that people with disabilities take no more time off than other workers...?
- that available information indicates a normal to slightly better productivity rate for workers with disabilities...?

Source: Directorate of Equal Opportunity In Public Employment

Big brook or bust

We headed out of Perth at 7pm. Plenty of time to arrive in Pemberton for a Friday night party. Stopped for coffee after an hour, then headed to Busselton for tea. Where was the turn off? We went back and saw Strelley

Street. Everyone was happy to go along this route.

We drove on until the black-top ran out. We then saw some large roos. "No problem," I explained, "I

participated in CALM's roo survey and am an experienced spotter." The Driver was not impressed - maybe because he didn't have roo bars.

We drove over the Blackwood River (for the first time) and at the highway a democratic vote took us right, which was wrong.

On into Margaret River where we got food and good directions, but no fuel.

We made it to Nannup now only 76 kilometres left

to Pemberton. But it was past 1am and we had only two litres of fuel... should we sleep in the car or call for help? What was that noise? Loud music! We followed the music to a rather weird-smelling party. Hooray! A party guest worked at the local garage, and called the

owners. Petrol at last. We arrived at Primrose cottage at 3am-eight hours after leaving Perth. Estelle

greeted us with "What are you doing here?" "This is the right place isn't it?"

