

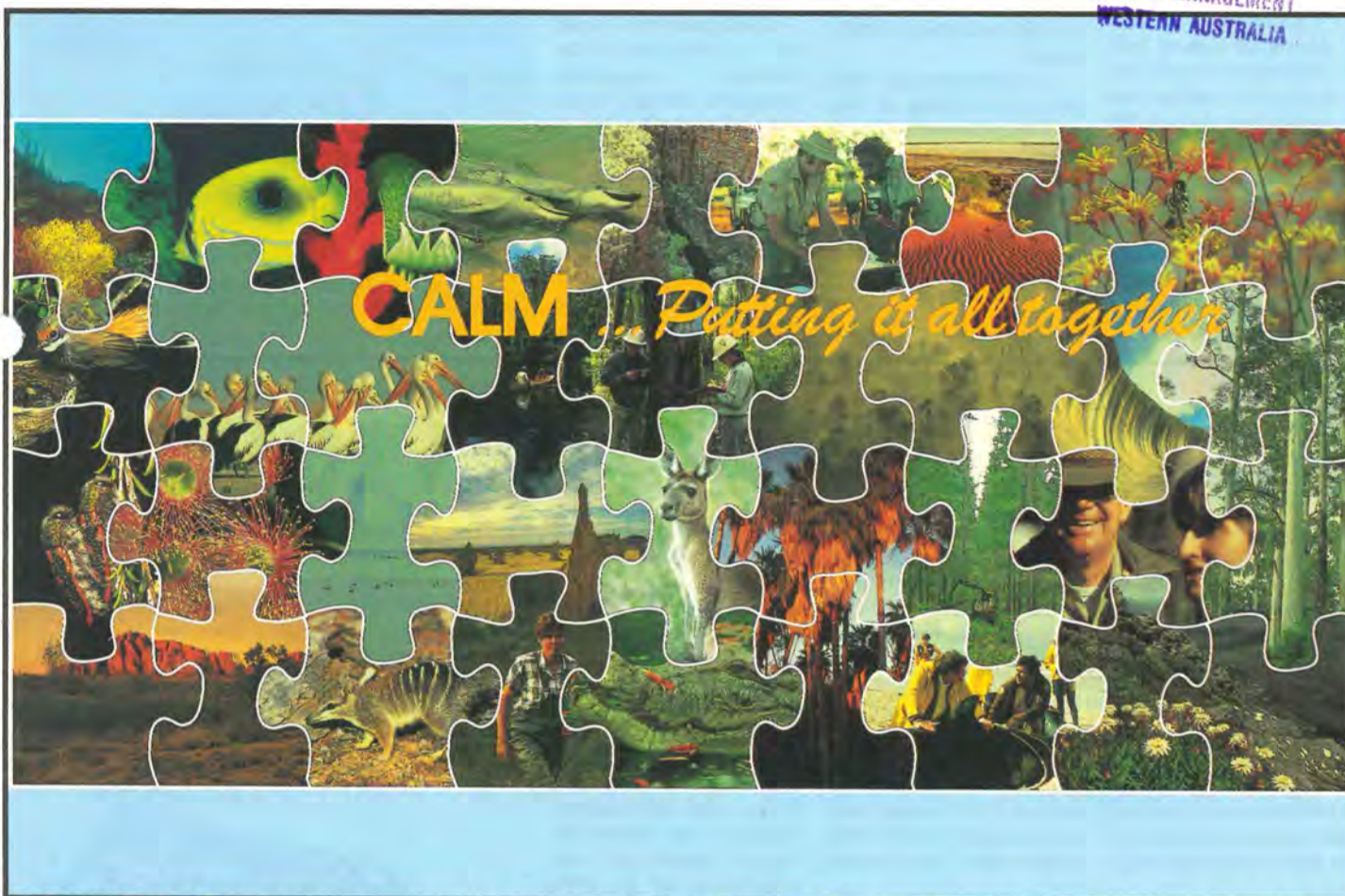
CALM NEWS



DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

COMO RESOURCE CENTRE
DEPARTMENT OF CONSERVATION
& LAND MANAGEMENT
WESTERN AUSTRALIA

January 1991



Perth host to IUCN

The most powerful collection of scientists ever assembled to tackle the world's conservation and environmental problems was told in Perth that what the world needed was a new industrial revolution to rescue the human race from a collision course with its environment.

Martin Holgate, director-general of the Geneva-based World Conservation Union (IUCN), told delegates at the closing session of the 18th General Assembly of the IUCN that much of the world had to be rescued from poverty if long-term sustainability of the world's environment was to be achieved.

He said that the large gap between the rich and the poor could only be achieved by an industrialisation "that must be done well. That means new technology - technology we have not yet invented ... technology that takes account of the need for long-term sustainability of the environment."

Dr. Holgate added that "we are not obliged to use all of nature ... but we have

also accepted the need for realism.

"Overmuch of the world, human needs are increasing and must be met in a fashion that is environmentally responsible and sustainable."

Finding ways to achieve that goal dominated much of the assembly as one scientist after another added facts and figures to the growing evidence that the survival of many kinds of plants and animals is at stake, as well as the stability of the living systems which keep the earth habitable.

The agenda included finalising a new world conservation strategy for the 1990s, called 'Caring for the World, a Strategy for Sustainability', a strategy for saving tropical rainforests, and sustainable development in arid regions.

More than 1400 delegates from 119 countries attended the conference held at the Burswood complex between November 28 and December 5. CALM was very much in evidence at the conference.

CALM coordinated the
Continued page 2

INTEGRATED RESOURCE MANAGEMENT was the theme of the CALM display at the recent IUCN conference in Perth. The 10 metre x 4 metre display, part of which is shown above, is currently on view at the ANSETT departure lounge at Perth Airport.

Breeding success

Three of WA's most endangered animals have new hope for long-term survival, thanks to research being done by CALM scientists.

The chuditch, the western swamp tortoise and the numbat are all part of a program of breeding threatened and rare fauna in captivity.

The chuditch produced 12 healthy young in captivity. For the past two years, captive breeding of the chuditch, WA's largest carnivorous mammal, has not been successful. However, a breakthrough this year saw two females carrying maximum size litters. The chuditch breeding program has been run under the direction of CALM scientist Keith Morris.

Another breeding success, which follows years of hard work and research, is the western swamp tortoise. This is Australia's most endangered vertebrate, with only about 50 animals remaining. CALM Director of Research, Andrew Burbidge, has been studying the tortoise since 1963. Attempts at captive breeding began in 1979, with limited success. When Gerald Kuchling joined the program, he discovered that ultra-sound scans could determine a female's reproductive status.

Using ultra-sound results, along with improved diet and enclosure design, 11 eggs were laid at Perth Zoo in 1988 and successfully hatched in 1989.

Unfortunately hatchlings developed an infection of the skin that proved hard to combat. Of the 11 hatchlings, five survived and are doing well.

This past year has been the most successful ever for the western swamp tortoise. Not only were 11 eggs hatched, but all the 11 hatchlings survived their first dangerous year.

The third animal in the breeding program is the numbat, the State's faunal emblem. Senior research scientist Tony Friend has been working with numbats since 1981. While they have been bred successfully in the past, this year the females did not carry their young to

term.

Premier Carmen Lawrence announced the success of this year's captive breeding program, shortly before the IUCN conference met in Perth.

The breeding programs are a cooperative effort between CALM and the Perth Zoo. The University of Western Australia is also involved in the western swamp tortoise program.

Captive breeding is part of an endangered species conservation objective that relies on a combination of habitat protection and restoration, scientific research and the establishment of self-sustaining populations in

captivity, with the ultimate aim of re-establishing populations of these animals in the wild.

There seem to be common factors causing the decline in populations of these animals. The first cause is the change in habitat. This is mostly due to clearing land for agricultural and other purposes.

CALM is working on habitat restoration for the animals. The introduction of the fox has also caused great declines in population. Most recently a special fox-proof fence has been constructed at Ellen Brook, the habitat of the western swamp tortoise.

Book sales up

CALM book sales experienced a dramatic increase during the first five months of 1990-91.

Wholesale value of CALM books sold through bookstores and newsagents between July and November 1990 was \$47,208, up 101 per cent from sales of \$23,490 for the same time last financial year.

Sales during November alone were \$11,824, up 169 per cent from the sales total for November 1989.

CALM's saleable publications program, which includes the wholesale and retail sale of publications and maps plus revenue from LANDSCOPE, is forecast to earn \$340,000 in the current budget year.

"We are definitely on target to achieve our revenue

goal," said Ron Kawalilak, Manager of Public Affairs.

"All CALM's older publications are maintaining a good level of sales, with the newest publications - *North West Bound* and *Leaf & Branch* - contributing very strongly.

"In addition, LANDSCOPE revenues have also increased, partly because of an increase in the subscription and cover prices, but also because the number of subscribers has increased by 20 per cent over that of a year ago."

Revenue from this program is used to finance the production of LANDSCOPE and other publications brought out for sale.

"Over the past 12 months, the Department has

revamped the saleable publications program by reducing costs while at the same time taking steps to significantly increase revenue," Ron said.

"This is very important if we are to continue to publish books that educate the public on issues pertaining to conservation and the process of land management, and also develop public understanding and support for the work of CALM."

CALM's books and other publications are available from CALM offices and through 159 booksellers in the metropolitan Perth area and a further 118 country outlets. LANDSCOPE is available from more than 360 outlets throughout WA.

To give you a clear idea of the choice and colour of uniforms available to CALM staff, this issue of CALM News appears in colour by courtesy of the Uniform Committee. The Committee has examined a number of options for CALM uniforms: a field uniform, a works uniform and an administration uniform. Turn to the back page for the full story and your chance to comment.



Hillary Merrifield shows John Morris and Ruth Bettenay a starfish found on the beachwalk. Photo - Marie McDonald

An exceptionally low tide last spring left hundreds of creatures exposed along the water's edge at Penguin Island. Hillary Merrifield, one of the Penguin Island volunteers, led a group of CALM volunteers from Canning River Regional Park, Marmion Marine Park, and Penguin Island on an exciting beach walk to examine the creatures around the island's sandy shores.

The beachcombing activity was part of the launch of the Metropolitan Region's 1990-1991 volunteer season. The groups

were welcomed by the regional manager, Drew Haswell, and were updated on the Shoalwater Islands Marine Park Plan by marine and islands manager, Greg Pobar.

After a review of their rights and responsibilities as volunteers, the groups shared ideas and experiences while touring the island. Metro's new volunteer coordinator, Marie McDonald, now has the job of assimilating the ideas and suggestions resulting from these discussions. Similar activities are planned for other volunteer groups in the future.

HAVE YOUR SAY ON THE NEW CALM UNIFORMS...see page 8

FROM MY DESK

Summer is the fire season in the southern half of the State, and my thoughts at this time always turn to CALM's firefighters. These are the people who tend to be forgotten when there are debates about our controversial fire prevention and fire mitigation programs, such as prescribed burning and stag felling in forests or scrub-rolling of buffers in heathlands.

CALM firefighters also are frequently "under-exposed" when the media report on fire control events. CALM firefighters work hard and long, and must overcome the same difficulties as volunteers, who have a higher profile. In my view all firefighters deserve equal credit.

Firefighting is hard, dirty and dangerous work. Fires occur under the sort of highly unpleasant weather conditions when most people shun the bush - that is, it's windy and damned hot. Firefighters drive heavy equipment over rough roads for long hours. They drive themselves in frantic physical activity, tackling hopovers or making a stand against a front. They suffer sore eyes and heat exhaustion. They stay awake all night patrolling edges or operating control points. They know the cruel disappointment of holding an edge, then losing it, holding again and losing again. Sometimes they fight a successful operation only to be called away to another emergency before having tied in the first, which is then lost and must be fought again.

Firefighters are often away from home for days on end, sometimes (as at Dwellingup in 1961 and Fitzgerald River National Park in 1989) knowing that their homes are threatened elsewhere by fire.

Firefighters are frequently injured, and sometimes killed. Most suffer serious stress, including those with the responsibility of being in charge of others, and of making tough decisions under enormous pressure.

Finally, firefighters also suffer criticism. After any fire, there is always someone who thinks he could have fought the fire better than CALM, and someone else who could have prevented it in the first place, if only we idiots had listened. Firefighting is mostly a thankless task - no-one outside CALM ever hears about the heroic and successful conquering of the hundreds of small fires CALM's firefighters deal with each year.

I believe it is a mark of professionalism that CALM's firefighters know how to deal with all this. We know we can always learn and always improve, and we aim to do both. But we are also proud of our work, and stand tall in the face of unfair criticism. We also know that there will be another fire next week, or next season, and we'll be into it again, doing our best, and mostly doing a tough job well. This is truly what professionalism is all about.

ROGER UNDERWOOD
ACTING EXECUTIVE DIRECTOR

Aboriginal festival

CALM will participate in an Aboriginal Cultural Arts Festival at the Perth Esplanade between February 8-9th.

The festival's name - Kyana - is a South-West Nyoongah word meaning 'to go back to something of value'.

Kyana aims to enhance Aboriginal cultural links with traditional values and a way of life that has been eroded over the past 200 years.

During the festival, groups from Mornington Island, One Arm Point and the Warburton Range will perform traditional dance, and a wide range of visual arts from all regions of

Western Australia will be shown.

Various organisations will mount displays showing their services to the Aboriginal community.

CALM's pavilion at the festival will include an enclosure with live animals, wetlands habitat with a tunnel and pond, videos on wildlife and static display panels.

A herpetologist will provide a display of live snakes and answer questions about venomous and non-venomous species.

There will also be special children's activities and an interactive display shelter with the theme of caring together.

Trevor Walley, Helen

Lawrence, Gil Field and Rae Burrows are organising the display.

Several Aboriginal people will be helping out, including national park rangers Hardy Dershow (Yanchep) and Lance Jackson (Cervantes) and wildlife officer Boyden Yarran.

CALM staff who would like to participate in the festival, especially Aboriginal people, should contact Trevor Walley at Wildlife Protection on 367 0287.

The festival is co-ordinated by the Dumbartung Aboriginal Corporation and is the first of its kind ever to be organised.



PERTH ESPLANADE
FRI 8th - SAT 9th FEBRUARY 1991
Official Opening 8th February, 10.30 am
For further information contact Robert Eggington -
Alta Winmar - Dumbartung on (09) 451 4977

Lane Poole review

The incidence of dieback in Lane Poole Nature Reserve, near Dwellingup, is to be reviewed under the terms of the management plan for the reserve.

The management plan was released by Environment Minister Bob Pearce in December.

"Significant parts of the 52,000 ha reserve have been declared as disease risk areas and the planners recog-

nise the importance of reviewing the declared boundaries," Mr Pearce said.

"Dieback is a major problem in the reserve, and while existing control measures are stringent, this review is prudent management.

"Roads will be checked to determine their role in the spread of the disease, and roads already closed will be rehabilitated. Vehicle access

in the conservation zone of the reserve will also be limited."

Lane Poole Reserve was declared in October 1983 to protect the conservation and recreation values of the northern jarrah forest and the Murray River.

The reserve was named after Charles Edward Lane Poole, who, as Inspector General of the Woods and Forests Department, was responsible for the 1918 Forests Act. Prior to this there was no legislation to control the amount of timber cut or the place and manner of cutting, or to regenerate the forest after cutting.

"Lane Poole Reserve is a popular recreation area and an important education facility. The Icy Creek bush camp run by Morley Senior High School last year attracted 3000 students.

CALM Executive Director, Dr Syd Shea, and students from Morley Senior High School enjoy a barbecue lunch at the launch of the Lane Poole reserve management plan.
Photo: Helenka Johnson

"The management plan gives priority to those recreation activities that won't degrade the reserve.

"Other objectives include identifying and protecting the reserve's rare and endangered flora and fauna and, where possible, the

eradication of introduced species."

More than 500 plant species are known in the reserve and as many as 21 native mammal species, including a secure population of the rare marsupial, the chuditch.



Avon Surveyed

A trapping program to survey the distribution of the rare chuditch began in December in Avon Valley National Park.

It was the latest in a series of surveys carried out by CALM over the past two years.

The chuditch, or Western quoll, is a carnivorous marsupial which was once found across Australia. It is now confined to the southwest of WA, where it's thought that fewer than 6000 remain.

CALM research scientist Keith Morris said the CALM surveys were essential not only to determine the chuditch's distribution, but to monitor its progress.

"Already the surveys have shown that the chuditch is more widespread than was previously thought, occurring not only in the jarrah forests, but as far away as the central and eastern wheatbelt", Keith said.

Chuditch sightings have been reported as far apart as Gingin, Goomalling, Southern Cross and Lake King over the past 18 months.

Keith said the surveys also indicated that chuditch numbers have not declined since trapping began.

Surveys are carried out by setting traps over consecutive nights and the animals caught are measured, weighed and marked before being released.

Keith hopes that a big enough population can be found in the Avon Valley which can then be studied on an on-going basis.

CALM is also working with Perth Zoo on a captive breeding program for the chuditch, with the eventual aim of releasing animals back into the wild. The program began in 1988, but was unsuccessful until autumn 1990, when 12 young were bred.

Staff News

Promotions Confirmed: Peter Dans, to technical officer, Metropolitan Region, Mt Pleasant; Ray Bailey, senior communications coordinator, Public Affairs, Crawley; Ron Sokolowski, research centre manager, Woodvale; Marie McDonald, projects officer, Metropolitan Region.

Transfers: Trevor Smith, ranger-in-charge, to Avon Valley National Park; Glen Willmott, forest ranger, to Mundaring.

Retirement: John Humphreys, district forester, Narrogin, after 24 years of forestry and advisory service.



Retired forester dies

Retired forester Arthur Burns, 64, passed away suddenly at Bunbury recently.

He retired from the Department in September 1987 after more than 28 years' service with the Forests Department and CALM.

Arthur began his career

with the Forests Department's Radio Branch as a telephone mechanic in March 1959. During this period he was recognised for his ability in the construction and maintenance of the old bush telephone line system and also numerous of-

fice and house installations.

The gradual replacement of these with the new radio telephone network in 1973 caused the job of the telephone technician to disappear. Arthur was quickly signed up by Fire Protection Branch to service the technical equipment in fire control.

Arthur worked in Fire Protection Branch from January 1974 until his retirement in September 1987. He was responsible for the development of the Australian fire retardant AM-GUARD, the design, manufacture and installation of the BURNS forest windmeter and also development work on the modification of grain moisture meters to suit forest fuels.

Most people will remember Arthur for his cheerful disposition, which, combined with his skills and expertise in the preparation and organisation of audio-

visual systems, made every fire training school he attended a huge success.

He transferred to Bunbury in September 1979 to assist Gordon Styles in the fire equipment development program. While at Bunbury, he also found time to fill the position of social secretary

for the CALM Field Officers' Association.

All Arthur's friends and colleagues in the Department are deeply saddened by his loss. His interest in, and contribution to, the Forests Department and CALM over many years are highly valued.

Continued from page 1

preparation and showing of the WA presentation on the opening day of the conference, and all delegates received a copy of the spring issue of *LANDSCOPE*. In addition, a CALM display developed by John Goodlad and Caris Bailey had a large impact in the foyer of the convention centre.

Tours coordinated by Metro's Rae Burrows took delegates to many of the important conservation areas near Perth. A series of meetings of

the IUCN's voluntary commissions - worldwide assemblies of experts - met as part of the conference. CALM representatives on the various commissions included Andrew Burbridge, Tony Friend, Bob Prince and Steve Hopper.

Other CALM staff who participated at the conference, either as delegates or observers, included Syd Shea, Chris Haynes, Barry Wilson, Keiran McNamara, John Watson, Geoff Mercer, Ron Kawalilak, John Blyth, Penny Hussey, and Ken Wallace.

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Super trees to the rescue

What would be the ideal tree for Western Australia? One that grows quickly, is resistant to salt, dieback, and insects, is beautiful to behold and at the same time produces a high volume of pulp or timber for production.

Mother Nature has been a bit slow in producing the perfect tree, so CALM scientists are giving her a helping hand. Breeding trees to enhance certain characteristics is nothing

new; as far back as the 1920s, Gnangara Nursery was working on producing superior strains of *Pinus pinaster* for Western Australian conditions.

The early work on trees relied heavily on the expertise of foresters, and their "eye" for a good tree. While the foresters' years of experience stood them in good stead in many cases, they could not determine what genes a tree was

carrying; so it was impossible to determine what the next generation of tree would be like.

The advent of computers and more sophisticated testing has changed that. The traits of different trees are programmed into the computer, and as each generation is produced, new information is added.

Manjimup Nursery - the biggest and most modern in Australia, with the capacity to raise 17 million seedlings a year - has become a gene bank for improved or "super" trees. At Manjimup the best trees are cloned and, when ready, are carefully bred. The parent trees of each offspring are recorded. This prevents future in-breeding and also enables a record to be kept of traits and characteristics of the trees through successive generations. The program is being run under the direction of CALM senior research scientist, Trevor Butcher.

The first super-tree seedlings were Tasmanian blue gum (*Eucalyptus*

globulus). These were planted by Environment Minister Bob Pearce recently. On the commercial side, *Pinus radiata* and *Pinus pinaster* are also being studied. With these species, scientists are looking for trees that grow faster and straighter, and use less water at the crown so more water can get to the surface and into the ground.

But commercial trees are not the sole focus of the super-tree program. Native Western Australian trees are also being bred. Work has been carried out on karri since 1970, and programs to produce jarrah and wandoo that are dieback and salt-resistant are also under way.

CALM Executive Director Dr Syd Shea said the super trees would be planted over 105,000 ha of cleared agricultural land stretching from Perth to Albany. He said the new variety of trees could help rehabilitate areas affected by salination and could also protect sensitive waterways from fertiliser pollution.

Barrow census

It's estimated that more than 100,000 golden bandicoots live on Barrow Island.

Researchers made the estimate during the first field trip of a three-year study of Barrow Island, one of WA's most important nature reserves. The study is made possible by a \$240,000 grant by the Australian Research Council to Professor Don Bradshaw of the University of Western Australia.

The study involves ecologists, biologists and physiologists from the University of Western Australia, CALM, Murdoch University and Sydney University, who will gather ecological data on a range of mammal, bird and reptile species and investigate how each species interacts with its semi-arid environment.

Barrow Island, in the North West of the State, is refuge for 13 native mammal species, four of which have either declined or become extinct on the mainland.

CALM research scientist Keith Morris said that much new ground had been covered by researchers during the first field trip.

"Nowhere before in WA has a project looked so intensely at the undisturbed ecology of a wide range of vertebrates in a semi-arid environment," Keith said.

"We're looking at all vertebrates, how they interact, how they fit in, and how they split up the island's food and shelter resources."

One study during the field trip demonstrated how the fauna depend on the dense hummock grasses on the island for daytime refuges and how far they move from those at night to feed.

Another saw five long-tailed planigales trapped - four of which were females with pouch young. There had only ever been three planigales trapped on the island.

Other small dasyurids trapped included four fat-tailed antichinus.

Keith said further trips were planned for the group on Barrow Island in April and November next year.

Meanwhile, black rats are being eradicated from Barrow by CALM and volunteers from West Australian Petroleum (WAPET).

A trial program on 170 ha of the island to protect rare native mammals and other fauna from black rats has been a success.

Keith said the Pilbara regional staff would carry out further baiting next year on an adjoining area of Barrow Island and Middle Island - a total of 400 ha.

Flora found

by Mike O'Donoghue

Penny Hussey recently discovered a large, previously unrecorded population of a declared rare flora species, the scarp darwinia (*Darwinia apiculata*), while enjoying a "lazy Sunday afternoon" in an area of bushland close to her home.

The scarp darwinia was located on an unvested parklands reserve in the Shire of Mundaring, in flower and in a healthy condition.

Les Robson from the Northern Forest Region, and Mike O'Donoghue of the Wildlife Branch, expressed delight at the find, as the species was previously only known from 350 plants at the type locality west of Kalamunda.



Photo: Bill Advic

Santa is really Old

by Peter Ryan

Santa look-alike Ian Old arrived astride Ranger John Arkey's patrol vehicle for the CALM kids Christmas party ... thus beginning Ian's first, and perhaps only, excursion into Santa's world of Christmas. The distribution of presents by Santa

and his Pixie (Debbie Greaves) caused differing reactions. Some cried, some sat on Santa's knee and pulled his beard, while others were subdued - but all received a present and a large packet of lollies, including the biggest kids: computer officer and photographer Bill Advic and Santa himself.

After a well-earned coke and

the departure of Santa, it was time for the games.

These included pass-the-parcel, an egg-and-spoon race, and sack races.

After Santa's initiation with a bunch of excitable kids, he departed on five weeks' recuperation leave for a possible return next year - that is, if we can talk him into it!

Upgrading look-out trees

The South-West's fire lookout trees are ageing.

The Diamond Tree in Manjimup and the Boorara Tree in Northcliffe have reached the stage where work is required on them.

CALM district manager Alan Lush said the Diamond Tree was unique because it had a small cabin on top of a tower structure on top of a tree.

"I don't want to see it blown off and smashed

during a winter storm," Mr Lush said.

"We will lift it off and begin refurbishing the tree and its surrounds."

Mr Lush recently held meetings at the Diamond Tree and Boorara Tree.

He said community support and encouragement was good for both tree sites, and CALM would plan their redevelopment during the next 12 months.

While draft plans are drawn up and costed, CALM will again seek local input

before the draft plans are finalised.

Work is likely to be staged over several years, according to the amount of funding available.

Mr Lush said the Diamond Tree received a steady stream of visitors because it was so convenient to the South-West Highway.

"More than 500 cars call in every month and it is one of the many CALM tourist sites which help to keep tourists in the district," he said.

Community contributions are likely to be sought through the shire council and tourist bureau to help redevelop these sites.

Mr Lush said if anybody wished to comment on CALM's plans for the lookout trees, they could contact him or recreation officer Greg Voigt on (097) 711788.

Reprinted courtesy of the Warren Blackwood Times.

Fox-proof fence

by Grahame Rowland

A major conservation project was completed in early December at Ellen Brook Nature Reserve in the Metropolitan Region. A 2.2 km electrified fox-proof fence has been built to protect the short-necked or western swamp tortoise.

The project was the largest single job completed by the reserve management assistants of the Metropolitan Region in 1990, and was carried out by only four people and an overseer.

Overseer Glyn Hughes said that it had been quite a challenge to build the fence, as knowledge of fox-proof electric fences was still fairly limited. Considerable input was sought from Terry Bloomer, the region's fencing expert, Engineering Branch, and from private fencing suppliers and con-

tractors. The lack of knowledge was not the only problem. The soil type of the reserve was a further complication. Swan Valley soils are very dense. This makes them highly valued by local brickmakers, but extremely difficult to shovel. Therefore, it was necessary to use heavy duty contract equipment to dig the 270 post-holes.

"Last summer's unseasonal rains caught us out," Glyn said.

"Not only did we have to dig out many of the holes, but the clay soil goes from the consistency of concrete to the consistency of mud. It becomes completely impassable."

With work abandoned in winter and early spring, it was a case of continuing the baiting program that has so far been the only method of fox control available to the region.

The new fence is 2.1 metres high with four electrified strands or "hot wires". A right-angle return of 500 mm at the top is matched by a similar "skirt" of 700 mm at the bottom, the latter just under the group.

These two additions, plus the hot wires, should discourage even the keenest of foxes. Baiting will continue on an infrequent basis to ensure that the reserve is kept fox-free.

An important and sizeable maintenance task will be keeping both sides of the fence free from vegetation that may short out the hot wires.

With restrictions on the use of machinery and chemicals, maintenance will prove labour-intensive. It's hoped that funding may be found, or that volunteers from the Department of Community Services may be used.



CALM's Brad Colton at work on the fox-proof fence at Ellen Brook. Photo: Terry Bloomer.



Moora district manager, Dave Rose (left) chatting to one of the IUCN delegates visiting Mt Lesueur. Photo David Gough



CALM research scientist Steve Hooper points out interesting aspects of the proposed Mt Lesueur National Park to IUCN delegates during their visit. Photo: David Gough.

IUCN visits Mt Lesueur

by David Gough

Six-thirty a.m., Burswood Convention Centre, Perth:

Twelve tired-looking IUCN delegates, Andrew Burbidge, Steve Hopper and I set off on the 220 km, three-hour journey to the Mount Lesueur area, near Jurien Bay.

The first part of the journey was by air-conditioned mini-coach. An entertaining commentary was provided by Andrew and Steve, who pointed out areas of particular interest along the way.

With just one comfort stop at Cataby Roadhouse we arrived at the CRA farm in the Mt Lesueur area in time to witness the four-wheel-drive vehicles being washed down as part of the dieback prevention program. After a brief explanation about the problems of dieback, we set off on a four-hour tour of the proposed Mt Lesueur National Park. We stopped at selected

points throughout the area for brief descriptions of the flora and the opportunity for delegates to examine and photograph the various species of banksia, hakea, acacia, kingia, eucalyptus, and kangaroo paws.

Mount Lesueur has spectacular landforms and is one of the most diverse and flora-rich areas of Western Australia. There are more than 800 species, seven declared rare and endangered, and some found nowhere else in the world. In an area of just 100 square metres, there can be up to 120 different species - the delegates were understandably overwhelmed by the variety of species spread before their eyes. One delegate from Brazil shot about 15 rolls of film!

The fauna is also diverse with more than 120 birds, seven frogs and 47 reptile species. Unfortunately we saw only one, a bobtail lizard, who was persuaded -

with the wave of a hat - to rear up for the cameras.

The end of the tour came all too quickly but was, possibly, the highlight for many of us. We drove along a narrow track to the summit of Mt Perron (287m). Here we were able to look inland across the area to Mt Lesueur itself. Behind us and below was the Indian Ocean.

Our drivers for the tour were Dave Rose, District Manager of Moora area, and Alan Burnett and Gordon Graham from Metro Region.

On the journey back, the delegates - from Brazil, West Africa, England, Holland, Canada, USA and Australia - spoke excitedly about the wealth of plant species and spectacular scenery they had seen. They agreed that the area was of international importance and that it should be protected as a national park. Many looked forward to visiting the area again when they next came to Western Australia.

Ultra-violent light

With the IUCN in Perth articles appeared in the local media on all kinds of environmental subjects.

In an article in *The West Australian* on November 26, international scientists warned that some animal species may have already been wiped out by climatic changes and increased radiation from space.

Scientists said in the article that populations of many species of salamanders and frogs, including one in Australia, had shown alarming declines that could not be explained simply by the destruction of their habitats. One scientist was quoted as saying that Australians should be particularly concerned about the fate of frogs, because they had already

been subjected to increased radiation through the hole in the ozone layer which passes over the south and south-west of the continent each year.

A task-force was being established to coordinate studies that have already begun into the creatures' demise.

The article said that scientists would go back to the frogs' former habitats to search for possible survivors or likely threats. They will also measure ultra-violent radiation levels in the area.

Nothing like a bit of physical abuse from the sun to light up your life!

Maybe we should approach the manufacturers of Bullfrog sunscreen to help us with our threatened amphibian program....

Personal observations — IUCN

For one week, Perth hosted a world of conservationists, preservationists, scientists and activists, all with something valid to say about world conservation and environmental issues.

Several CALM people attended the IUCN conference held at the Burswood complex in Perth between November 28 and December 5 last year, some in an official CALM capacity, others as observers or participants on leave.

Each came away from the IUCN with their own thoughts and feelings about its effectiveness, its achievements, its high points, and its value in an ever-changing world.

Here are some of their thoughts, in no particular order:

- Steve Hopper,

Senior Research Scientist, CALM Wildlife Research, Woodvale:

"It was a great honour for Western Australia to be chosen as the venue for such a prestigious conference; perhaps it was a reflection of WA's track record in nature conservation.

"The importance of Australian and, particularly, Western Australian flora and fauna was emphasised. We are in a 'megadiversity' country and have international obligations to conserve our biological resources.

"There was a good mix of government and non-government organisations at the IUCN, which led to stimulating and healthy debate about the serious issues facing the planet. The focus on global issues in an interna-

tional forum was particularly welcome.

"One major step forward coming out of the debate was a proposed international biodiversity conference or treaty.

"Both the pre- and post-General Assembly tours to Mt Lesueur were enjoyed by IUCN delegates. They all agreed that the area was of international importance.

"From a personal viewpoint, I was able to make many new and useful contacts with overseas biologists and I look forward to the next IUCN."

- John Watson, CALM South Coast Regional Manager, Albany:

"For me, the highlights of this conference were the opportunity to sit in on the CNPPA (Commission on National Parks

and Protected Areas) meeting immediately before the conference, and the conference workshop on protected area management.

"These sessions included reports on various aspects and techniques of park and reserve management throughout the world.

"I was pleased to host visits by Jane Robertson of the UNESCO MAB Secretariat in Paris, Dr Larry Hamilton of the East-West Centre in Hawaii, and Adrian Phillips, Director General of the Countryside Commission in England, to various areas of interest in the South Coast Region. These included the Fitzgerald River National Park and the Stirling Range National Park.

"One of the disadvantages of working in a

country centre is the general lack of contact with interstate and international professionals in similar fields. Attendance at the IUCN and the subsequent informal contact with conference delegates was, for me, extremely stimulating and valuable, especially with regard to CALM's work in the South Coast Region."

- Penny Hussey, Executive Officer:

"As soon as I heard that the IUCN General Assembly was to be held in Perth, I knew that I wanted to go. So I took holidays and went as an observer from the Conservation Council, nominated by the WA Naturalists' Club.

"And it was well worth it! It was exhilarating, a glimpse of a whole new world of action and politics, of concern tempered

by compromise.

"The people who attended were diverse and their projects immensely interesting. Like a Tanzanian involved in village management of wildlife for tourism; a man from the Maldives whose capital city is raised one metre above sea level by virtue of being built on a mountain of garbage; a Pakistani woman creating 'Environment Parks' in the city slums so that women and their children can regain their self-esteem and understanding for the land ... and one could go on.

"It was quite clear, however, through all the rhetoric, that there is only one issue of environmental concern in the world today, and that is the explosive growth of the human population. All else stems from that. How

can you explain to a desperately poor man that he should let that sapling grow to provide wood for the whole village in 2 years, when he needs fuel for his cooking fire now, this minute, tonight, or his family will starve?"

"I oscillated between two workshops - global change and the Sahel - at which this dilemma was continually expressed. In the Sudan, an educated wife used to be worth a dowry of 20 cows, now it is 2000. Not a comment on the increased value of education, rather on the decreased value of cows. We have effectively controlled the death rate, for man and his stock, without controlling the birth rate. And if the sea level does rise as predicted, what on earth -

Continued on page 5



Observations

Continued from page 4

literally - will we do with 75 million dispossessed Bangladeshis? Give them the Kimberley? After all, it's empty, isn't it. . . ?

"Yes, a great experience, making new friends from all corners of the globe, learning new things, contributing, perhaps, to a voice of sanity and reason in this mad world. You all know the slogan: 'Think globally, act locally!' Well, all of us in CALM 'act locally', that's our charter. But it was great to think that, just for this once, one might, indeed, be 'acting globally'."

- Kieran McNamara, Manager, Wildlife Branch:

"A key issue I was involved in at the IUCN was the use of wildlife, particularly whether using wildlife can help achieve wildlife conservation, and whether use should be encouraged for that reason."

"Wildlife is used throughout the world, whether consumptively (e.g. through harvesting) or non-consumptively (e.g. for tourism), and whether for subsistence or commercially. In many countries, subsistence use of wildlife is the basis of survival for many people. Additionally, many countries faced with increasing populations and oppressive poverty simply cannot afford to conserve wildlife unless that wildlife 'pays its way'. On the other hand, many people in developed countries such as Australia are unhappy about killing wildlife for commerce or sport."

"This issue was debated over a number of days by a diverse group including scientists, government officials from a wide range of nations, Inuit Eskimoes, and non-government organisations including Greenpeace."

"Following that group's work, IUCN adopted a resolution which, for the first time, stated IUCN's support for the principle that sustainable use of wildlife can provide an alternative or

supplementary means of productive land use. What this means, for example, is that wild plants and animals could be used to confer an economic value on wildlife habitat, which means that the habitat is conserved rather than converted to another use such as farmland. The importance of the resolution lies largely in the fact that it was agreed by such a diverse array of nations and interest groups."

"One benefit of participation at the IUCN was that it helps us to see our local issues in a broader, worldwide context, and to bring some new ideas to how we deal with those local issues. It also served to highlight the uniqueness of IUCN as an international organisation, with its membership blend of government and non-government organisations."

- Andrew Burbidge, Director, CALM Research:

"Two points in particular struck me. Firstly, there was a will among IUCN members to do what was necessary to save the world from ecological disaster. This was evident in the approach to the second world conservation strategy, in the debate about protecting Antarctica and in developing strategies to maintain biodiversity."

"Secondly, there was unfortunately still a belief among many members that they could not work with organisations that are managing renewable resources. This was revealed in the votes to exclude the Tasmanian Forestry Commission and the Fur Institute of Canada from membership."

As well, I was able to meet many old friends and make new ones."

NOTE: The comments expressed above are the personal thoughts and feelings of the people mentioned and may not necessarily reflect the views of the Department.



Premier Dr Carmen Lawrence, artist Carol O'Connor and HRH Prince Philip with the painting of the noisy scrub-bird. Photo courtesy of The West Australian.

HRH meets NSB

A painting of the rare and endangered noisy scrub-bird, *Atrichornis clamosus* (also known as the NSB), by Mount Barker artist Carol O'Connor, was recently presented to His Royal Highness Prince Philip, Duke of Edinburgh, as a gift from the Government and people of Western Australia.

The painting of the noisy scrub-bird was commissioned by CALM on the recommendation of staff from the South Coast region. Prince Philip played a role in the establishment of the reserve. Corinn Hine, CALM's Information Officer in Albany, and CALM's Reserve Manager and ornithologist Alan Danks, subsequently recommended that Carol O'Connor be commissioned

to paint the portrait of the noisy scrub-bird to be presented to His Royal Highness.

Prince Philip played a significant role in saving the area now known as Two Peoples Bay Nature Reserve, the habitat of the noisy scrub-bird, during his visit to Western Australia for the 1962 Commonwealth Games. He also chose to sponsor the noisy scrub-bird when he became a member of the Rare Bird Club of the International Council for Bird Preservation.

The Prince was in Perth in November on a private visit as International President of the World Wide Fund for Nature. He was one of more than 1400 delegates from around the world attending the General

Assembly of the IUCN at the Burswood Resort Complex.

On his final day in Western Australia, Prince Philip attended official functions in Perth and Bunbury. One of those functions was a visit to Parliament House, during which the painting was presented to him by Premier Dr Carmen Lawrence. Corinn Hine and Carol O'Connor, the artist, also had the opportunity to meet Prince Philip.

Carol was born in England and moved to Australia in 1980. She came to Western Australia after four years in NSW. Although she has no formal training, Carol has been exhibiting work since 1979. Her painting of the noisy

scrub-bird took nearly 400 hours to complete. The work involved consultation with Alan Danks, the biologist who oversees the Two Peoples Bay Nature Reserve, and a face-to-face meeting with the noisy scrub-bird itself. Carol was able to study the bird's habitat before beginning work on the painting and was able to see the birds at close range while they were in temporary captivity during the translocation program last year. The result is an accurate, life-size portrait of the bird in its favoured dense coastal habitat.

A reproduction of this painting and the story of the noisy scrub-bird appear in the visitors' display at Two Peoples Bay.

Although thought to be extinct until it was rediscovered in December 1961 by Albany school teacher Harley Webster, numbers of the noisy scrub-bird have steadily increased over the years as a result of CALM's habitat management plan and the translocation of some birds. About 700 birds are now spread along the south coast in four main locations, from Mt Manypeaks to Walpole-Nornalup National Park.

IUCN delegates assess Shark Bay

Two representatives from the IUCN visited Shark Bay to assess the area's nomination for World Heritage listing.

Shark Bay District Manager Ron Shepherd took Jim Thorsell and Harold Eidsvik from the IUCN, as well as representatives from the Federal Government and the office of the State Minister for the Environment, on a four-day tour of the district.

They were impressed with a number of the natural scientific features of the bay, particularly the stromatolites of Hamelin Pool.

The stromatolites represent an important period of evolutionary biology and are likely to fulfil one of the criteria for heritage listing.

The area is also a transition zone between the Eremean and South-West botanical provinces.

Also of interest were Aboriginal shell midden sites, the soon-to-be-de-

clared Peron National Park, and research into the regeneration characteristics of the Shark Bay sandalwood.

Other highlights were Dirk Hartog Island, Steep Point and South Passage.

The visitors flew over the islands and waters of Shark Bay and were able to see dugongs on the impressive Wooramel Seagrass Bank.

On the water, the visitors saw a variety of marine wildlife, including a group of dolphins.

Researchers at Monkey Mia provided information on the studies into the behaviour and population dynamics of the bottlenose dolphin, and introduced the

visitors to a few of the catalogued 300 wild dolphins.

During the inspection, advice was received that the boundaries of the Shark Bay Marine Park had been approved by Minister for the Environment, Bob Pearce.

The marine park is the State's seventh marine reserve, and its extensive seagrass beds support one of the world's largest and most secure populations of dugong.

The representatives will now take their findings back to the IUCN Assessment Committee. If the nomination is accepted, Shark Bay will be added to the World Heritage List in November 1991.



Two awards for tortoise

Thanks to two recent financial awards, the future of the western swamp tortoise looks more secure.

The jointly managed captive breeding program set up by CALM, the University of WA and Perth Zoo is progressing well under the watchful eyes of CALM's Director of Research Dr Andrew Burbidge, UWA's Professor Don Bradshaw and Dr Gerald Kuchling, and John deJose from Perth Zoo.

The first award of \$1000 came from computer company IBM. The western swamp tortoise captive breeding program came second in the company's recent IBM Conservation Awards.

The second award of \$15,000 came from the World Wide Fund for Nature Conservation and was presented by His Royal Highness Prince Philip, Duke of Edinburgh at the official launch of the Western Swamp Tortoise Wildlife Management Program in November. Prince Philip was in Perth for the IUCN conference and had the opportunity to visit the zoo and see the breeding program in action.

The program is also directly supported by the Australian National Parks and Wildlife Service, and CALM. Local sponsors include Aherns, East West Vet Supplies, Kailis Brothers Fisheries, and Minerva.

The carnivorous western swamp tortoise lives in swamps that fill only during the winter and spring. When the swamps dry out, in summer and autumn, the tortoises aestivate in holes in the ground or under deep leaf litter.

When the tortoise was rediscovered in 1953, an estimated 100 were living in Twin Swamps and Ellen Brook. Now there are about 20-30 animals in Ellen Brook and the Twin Swamps population is considered extinct. The Ellen Brook population and those held in captivity are the only western swamp tortoises left alive today.

The money from the two awards should help the future survival of Australia's most endangered vertebrate - the western swamp tortoise.



Putting nests to the test

Birds seeking nesting places near the Collie River will find plenty to choose from following a busy bee conducted at the Wildlife Sanctuary recently.

Sections of hollow logs, provided by CALM, were converted into nesting boxes and attached to trees at the sanctuary.

Workers at the busy bee also slashed long grass and cleared weeds from the area.

CALM officer Glynn Yates said workers were dismayed to find several large trees at the sanctuary had been ringbarked, while others had been lopped.

Mr Yates said it was disappointing for those who are working to establish a natural bush area for all Collie residents to have their work spoiled by a few.

The sanctuary committee plans to continue its work, with the clearing of weed from water areas the next item on the agenda.

Reprinted courtesy of The Collie Mail.

CALM forester Glynn Yates and volunteer Steve Sturges are pictured unloading nesting boxes.

Drupella found at Dampier

by Greg Oliver

A marine snail that has eaten out much of the coral at Ningaloo Reef has now been collected from the Dampier Archipelago.

Drupella cornus samples from the Aroolhos, Ningaloo and Dampier Archipelago were needed for a study being done by Dr Bob Black of the University of WA on the population dynamics of the hungry snails on WA reefs.

When CALM was asked

to assist in the study by collecting live drupella from the Dampier Archipelago, the Department approached the local diving club to help.

The response was terrific - the club organised a special dive to collect the snail. Three prizes of diving equipment were awarded to those who collected the most specimens.

Five enthusiastic divers, armed with drupella samples and searching tips, descended on Nelson Rocks late last November.

Forty-five minutes later 35 drupella were landed from a 200-metre section of reef front, and by the next morning the snails were on their way to Perth.

Further samples still need to be collected for the study, but this should not be difficult given the ease with which drupella can now be found in the Archipelago.

This is of some concern - as recently as 1985 the snails were conspicuous in the Dampier Archipelago only by their absence.



NEWS IN BRIEF

Root calls halt to truck calls

Telecom becomes OTC - Overly Tree-Conscious

The article in *The Australian* was headed: 'Cable-chomping trees threaten trunk traffic'. Alliteration aside, it seems our native Christmas trees, *Nuytsia floribunda*, have been slicing Telecom's underground cables as if they were the roots of other trees. Apparently the nuytsias put out a root which grasps the root of another plant - in this case actually a Telecom cable - grows a fleshy collar around it, and then slices the cable with horny, razor-sharp jaws which develop inside the collar. (Just when you thought it was safe to go back into the bush...) Unconfirmed reports of attacks on copper cables by nuytsia in the State's South-West suggest anything up to 25 per 100 km per year. Telecom says the plant could cause significant disruptions to east-west communications if it severed the new inter-capital optical fibre trunk network. Perhaps a more appropriate heading for the article may have been: 'The environment fights back', 'Revenge of the Nuytsia', 'Mutant Ninja Nuytsias', or 'Attack of the Killer Christmas Trees'.

Charitable cuts

CALM Wanneroo supplied Perth with its annual Christmas trees in December.

Over the three weeks leading up to Christmas, about 15,000 Christmas trees were cut and delivered. The majority were supplied through CALM's traditional customer, the YMCA (11,600 trees).

Large numbers were also supplied through Community Aid Abroad (450 trees) and Paraplegic/Quadruplegic Industries (1,800 trees) with about 750 trees going to other commercial outlets.

Approximately \$75,000 revenue was generated by the operation.

Trees were supplied as far as Exmouth and South Hedland. Free charity trees were given to various organisations for children's Christmas trees, departmental staff and others living in the metro area.

Reports wrong

Forester Len Talbot, from CALM's Mundaring District, has located a large population of declared rare flora, the spindly verreauxia (*Verreauxia verreauxii*) in an area of State forest proposed as a conservation park. The species of rare flora was "presumed extinct" until March 1987, when CALM botanist Sue Patrick located a small population on a nature reserve in the Shire of Beverley. Since Sue's discovery, several other small populations have been located in areas of State forest.

Len Talbot's recent find is significant in that it is a large population of more than 1,000 plants present on CALM land, and the fact that an earlier (non-CALM) report indicated that "... there appears little chance that it will be rediscovered ...". These are the sort of reports CALM officers like Len enjoy proving wrong.

Fern found

The rare fern shore spleenwort (*Asplenium obtusatum*) has now been found at a second mainland location, this time about 40 km west of Albany, within the newly gazetted Waychinicup National Park.

Like the first, this location was discovered by CALM south coast regional manager, John Watson, on a weekend climbing trip. Both the mainland populations are virtually inaccessible, being located on difficult rock climbs.

Pointing the way

Signposting our bush and maintaining signs and recreation facilities in the Southern Forest Region is a full-time job.

During this summer, 182 km of roads will be constructed throughout the region. When added to the several thousands of kilometres of roads and tracks already in existence, CALM has a lot of intersections to signpost in this region alone. Most roads and tracks are checked every five to seven years, when repair or replacement of signs is carried out. Ron Farr of CALM's Manjimup office is always on the road, cleaning the district's recreation facilities and restoring its signs. Ron is helped in his workshop by John Gore, and both Ron and John believe that if CALM maintains a high standard of work, it will be appreciated by forest users and result in less vandalism.

Fruits of CALM labour

CALM's nursery at Broome has had some unusual requests, but a recent one was particularly fruitful.

The nursery supplied 24 crates of mangoes for the Broome Mango Festival.

There are 12 species of mangoes growing at the nursery and CALM supplied two crates of each species.

Speak up!!

What frightens 90 per cent of the population? According to a recent survey, what people fear most is having to get up and speak in front of others. Australian Rostrum aims to turn such fear into a new-found confidence. The club helps people speak effectively and with confidence in public. Meetings are also a lot of fun.

Rostrum is looking for new members, so if you are interested, contact Janet Walters at (09) 368-3773.

Site upgraded

CALM has targeted the historical Willow Springs timber mill site near Nannup for upgrading and restoration.

The site will cater for tourists expected in the State forest area.

But while the first stage of the project is expected to be completed by the end of November at a cost of about \$4000 - cutbacks in the Department's recreational budget indicates further stages may not proceed for at least 12 months.

The historical site lies on the Bibbulmun Track and a popular tourist drive.

It is the site of the area's original mill settlement and pioneer township which was

planted with exotic eucalypt after it closed down. It is still a popular tourist site.

The existing facilities are minimal, but do include an old barbecue, a dam/water point, a walk trail and an unfinished road with parking bays. The surrounding vegetation is mixed karri, marri and jarrah.

Stage one of the project includes providing or upgrading the basic tourism facilities such as picnic tables, barbecues, and signage for the area, and defining parking and camping spots.

CALM will also label some of the more exotic blocks of eucalypt in the arboretum and generally tidy up the area.

In the future it is envisaged that the old walk trail through the arboretum will be modified to accommodate disabled users.

The project was started two months ago after the Department received positive feedback from groups including the Nannup Shire and tourism centre, the Bridgetown Shire and tourist centre, Friends of the Forest and ex-residents of the original settlement.

Reprinted courtesy of the Busselton-Margaret Times.

PINE PERIL

An incident last month showed that anything can happen when managing land and marine areas.

Blocks of pine dunnage that washed up along the shore of Marmion Marine Park were found to be a potential threat to Western Australian pine plantations.

The wood was lost from a passing container ship during bad weather and washed ashore between Scarborough and Burns Rock. A quarantine officer who inspected the wood gave a graphic demonstration that the wood contained the Japanese longhorn beetle, which attacks pine. He extracted beetles from deep within the wood with a knife.

Staff from CALM's Marmion Marine Park and local councils collected the timber and disposed of it.



Glasshouses are back in bloom

Glasshouses at CALM's Northern Forest Regional headquarters at Kelmscott are once again blooming with activity.

Clients from the Armadale Clinic are using them

for cultivating vegetables and seedlings.

The glasshouses were originally used for silviculture research by CALM, until the operations were transferred to Manjimup.

Local occupational therapist Nicki Longmire approached the CALM Kelmscott office to ask if the glasshouses, which she noticed were empty, could be used in her program.

Her request was granted and the glasshouses are full of plants and people. Nicki is seen here talking about the program with CALM regional manager Eric Jenkins.

Biological survey reveals park secrets

by David Lamont

Few visitors to Serpentine National Park explore or even consider more than the popular swimming hole and waterfall there.

Some of the park's secrets were revealed during recent biological surveys by CALM in the park.

The flora and fauna surveys provided information for the management plan currently under way; provided training for district

staff in techniques of intensive biological surveys; obtained information on the differing ecosystems within Serpentine National Park; and compared species diversity.

VEGETATION

Six major vegetation types were identified within the park and sample sites for the flora and fauna were chosen within these.

Vegetation sampling was carried out by Northern Forest region ecologist Sue Moore and Serpentine National Park rangers Bill

Evans and David Lamont.

Before the survey, Sue organised a plant identification workshop for Northern Forest region staff. Sue Patrick and Ray Cranfield from the Herbarium ran the workshop, which helped staff identify specimens located during the survey.

Some of the more uncommon specimens were dispatched to the Herbarium for positive identification.

While it is still too early to quantify the exact number of species present, it is thought the plant list for the park will easily exceed 500.

Opportunistic flora surveying is ongoing and several priority species were recently located.

Due largely to Bill Evans' almost mania-like efforts, the field herbarium is being established as a viable concern.

The number of introduced plant species found at some sites is cause for concern, though perhaps not to everyone. A recent visitor was heard to remark: "I do love those rusty bugle lilies." So much for attempts to eradicate the ever-present *Watsonia bulbilifera*.

FAUNA

Vertebrate fauna were sampled using pit traps and opportunistic hand captures and sightings.

Two lines of six pit traps were established within each vegetation type. Overseer Geoff Styles and his gang hand-dug the required 72 pits, often in very difficult conditions, and inserted the PVC liners.

Pits were located about 10 m apart and aluminium

flywire drift fences were erected 3 m each side of the pits.

The pits were sampled for four consecutive days and the procedure will be repeated in autumn.

Jim Rolf from Woodvale Research provided technical advice and identified all fauna captured. Keying out reptiles and frogs proved to be a little more complex than the flora.

Each morning the unfortunate "detainees" were poked and peered at until their bona fides were established.

This was an invaluable lesson as Jim led participating district staff through the identification keys for each species trapped.

The areas in the immediate vicinity of the pit lines were also searched for opportunistic hand captures, sightings or traces of resident fauna.

Some attempts at hand captures resulted in 'tails only' as slick skinks slipped by some slow surveyors, dropping their tails to elude capture.

At the end of the survey, a total of two snakes, 11 skinks, four geckos, one frog and four mammals were noted.

The surveyors were hoping to locate a larger number of small mammals, but the low numbers were probably due to foxes and cats preying on endemic species.

The surveys were a practical approach to staff training, and provided a positive forum for field/specialist staff interaction.



Pictured here are photographs taken of one such bridge by Jarrahdale district staff.

Old skills still used

by Ralph Smith

With the need for prudent financial management, Jarrahdale has for a number of years built bridges without using

outside assistance.

By purchasing two Alaskan Mills (chainsaw attachments) the crews have been able to construct bridges totally within our own resources.

They have been able to

square the faces for bedlogs and stringers and also cut the square decking.

The total production has saved several thousand dollars per bridge and provides a diversity of work for staff.

Regional News

CALM News is looking for more feature stories from the regions. If you have an interesting story, send it in (preferably with photographs and on 5.25 - inch disk) to The Editor, CALM News, Cygnet Hall, Crawley.

CALM News now has four editors (Tanyia Maxted, Helenka Johnson, Carolyn Thomson and David Gough) working on the paper. Each editor will be responsible for different issues of CALM News.

Debris danger

by Grant Hansen

November 1990 an accident at Jarrahdale reminded everyone that wearing a helmet is a necessity when working under forest canopy.

Forest worker Tom Boyd was working with his gang preparing for a wandoo regeneration burn. This work entails cutting up old logging tops and some tree felling. This creates ash beds when the area is burnt and achieves better seedling regeneration.

This particular day, Tom was helping a workmate fell a large wandoo stag. As the tree fell, both men retreated to a safe distance from the stump.

Unfortunately, the felled tree brushed against a neighbour, breaking off a limb 2.5 m long and 100 mm thick. The limb was

propelled towards the two men from such a height that neither noticed it.

Unaware that all the debris had not yet fallen, Tom began to walk towards the stump. He had taken only a few steps when the limb struck the side of his safety helmet and knocked him to the ground.

After receiving first aid from his workmates, Tom was sent to the doctor for treatment. Fortunately he suffered only bruising, grazes and some soft-tissue damage to his neck.

Further investigation showed that the butt of the limb struck the ground behind Tom absorbing most of the impact before the middle section hit his helmet.

The limb had travelled more than 15 m from the tree to where it struck Tom.

There is no doubt that his safety helmet saved Tom from serious injury or worse.

Cooperation in pc rehabilitation

by Ken Wheeler

Before 1978-79 the Forests Department completed rehabilitation of dieback-infected areas by salvaging of merchantable material, heaping debris and burning to create ashbeds for planting.

At this time (1978-79) Alcoa Australia stepped in to fund the Forest Improvement Rehabilitation Scheme (FIRS). Since that time dieback degraded sites have been annually attacked by CALM personnel to replace the habitats removed by *Phytophthora cinnamomi* (dieback).

First in the series of operations is the salvage of usable material. This usually takes the form of dry firewood which is removed by a CALM contractor.

CALM personnel then push up and burn the remaining debris to create ashbeds for planting stock. The ground is then seeded with local scrub species and fertilised in the same pass to replace the understorey

killed by *Phytophthora cinnamomi*. This is done by tractor and three-point linkage super spreader.

Ripping is completed to a depth of approximately .7 metre by a 930 wheeled loader. This enables the tree roots to penetrate any compacted soil much faster.

Wandoo wood

by Denise Allen

This year a contract of sale for wandoo fencing material was initiated by Jarrahdale District.

The upset price for this material, apart from including the usual costs of royalty, in-forest treatment, roading, production and loading, also included for the first time the cost of regeneration. This entails the falling of dead stags and the pulling of tree crowns into gaps in the forest, to provide an ashbed, when burnt, for seed germination.

It was thought the upset price of \$104 per tonne would not interest anyone

At the onset of winter rains, CALM crews spend about two weeks planting a mix of indigenous tree species. This includes 40 per cent marri, 40 per cent blackbutt and 20 per cent jarrah.

The mix is varied according to site type.



Sign of the times

by Greg Standing

CALM Jarrahdale's carpenter Fred Wheatley has been producing routed signs for about 20 years.

Como's directional signs are just one example of his handiwork.

Other districts are taking advantage of Fred's ability to hand-produce

high quality signs cheaper than any other source.

Signs have recently been produced for the City of Armadale, WA Water Authority, Alcoa, and CALM's Kalgoorlie and Moora districts, along with many others.

Top: an example of Fred's work
Above: Fred routing a sign.

HAVE YOUR SAY ON THE PROPOSED CALM UNIFORM



Above: Metro reserves officer Rod Martyn wearing the full field uniform.



At long last the new designs for CALM uniforms have been prepared by the design company Corporate Profile in response to the design brief to which many CALM staff contributed.

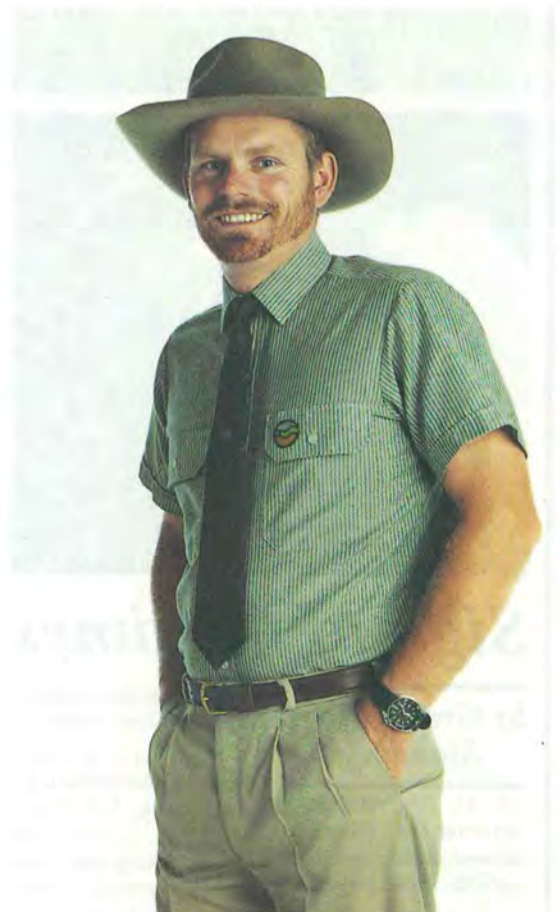
A number of options (beige or green theme) were prepared for the field uniform that allowed for a variety of individual choice.

After a preliminary viewing by the Corporate Executive and the Uniform Committee, three principles emerged: a uniform for all field officers without choice of colour; works uniform to conform in colour theme, only darker; and an administration uniform to allow for mix 'n' match options in the same colour theme, but with an additional compatible colour (blue).

The preferred option of the Uniform Committee is to have the field uniform in the dark beige rather than the light beige (see group photo); to have the beige colour in the administration uniform the same as the field uniform (not the light beige of the group photo); and to have the works uniform in beige, but for functional purposes, even darker than the field and administration uniforms.



Above: Field officers can wear this sleeveless vest or a long-sleeve jumper in the same colour and style.



Above: Hat to accompany field uniform.
 Top right: Some of the options viewed by the uniform committee.
 Bottom right: Administration uniforms in a choice of beige or blue.

We would like your opinions on the proposed uniforms. On the following questionnaire, put a Y in each box if you agree with that proposal, an N in the box if you do not. There is also space to add your comments.

Yes No
 Would you like to wear the uniform?

Please indicate what functional role you now perform with CALM.

Wildlife Officer Park Ranger
 Forest Officer Forest Worker
 Workshop Administration

Name (optional):

Any other comments:

Colour

Style

Badge Shape and Location

Other accessories such as epaulettes, pockets, belts, hat

Please return your comments by February 21 to:-
The Uniform Committee
 C/- Steve Grasso
 CALM
 PO Box 104
 COMO WA 6152.