



# CALM News

COMBINED RESOURCE CENTRE  
DEPARTMENT OF CONSERVATION  
& LAND MANAGEMENT  
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Casual workers at Dwellingup strip leaves from jarrah stems.

## Jarraah forest leaf research

By COLLEEN HENRY-HALL

THE amount of leaves on a jarrah tree affects many things, including how well the tree grows (due to photosynthesis) and, indirectly, water production in our catchments (due to transpiration).

Research is being carried out by Geoff Stone- man and Kim Whitford at Dwellingup to establish a system of quantifying the leaf area of various stands of trees.

Subtle changes in the forest cover caused by thinning, burning and forest disease have the potential to cause major changes in the water and salt yields of river basins.

It's essential to have quantitative information on forest leaf area and structure if we are to address catchment management issues associated with forest thinning and logging, strip mining and rehabilitation, forest disease, and reforestation for salinity control.

Estimating leaf area can also be used for forest growth and yield models, monitoring forest health and disease impact, and for plant physiology studies.

Kim has come up with basic regression equa-

tions based on canopy size, trunk diameter, an assessment of the density of leaves and amount of seed.

To develop these relationships, a range of trees of different sizes have been chopped down, stripped of their leaves and the leaf area of each tree determined.

This information is then related to the tree's

characteristics such as size.

Work over the past few years has progressed so that the researchers can predict leaf area in any stand of jarrah.

By relating easily measured tree characteristics such as trunk diameter and canopy depth and width, the leaf density of unmeasured areas can be estimated.

Kim Whitford said: "In the near future we hope to develop a way of

estimating leaf area using remote sensing techniques such as Landsat."

The remote sensing would enable a larger area of forest to be evaluated, and thus the effect of any forest management practise on the leaf forest area could be readily determined.

This would enable the prediction of the effect of the management practice on forest hydrology and wood production.

## RARE BANKSIA STUDY

A research project to protect and enlarge a stand of one of WA's rarest banksia — *Banksia cuneata* — will be undertaken in the Wheatbelt.

The project is one of three approved by the Road Verges Conservation Committee.

There are five known stands of *Banksia cuneata* in the State.

A stand of the banksia on the road verge between Quairading and

Bruce Rock will be the site of the research to be done in close co-operation with the Shire of Quairading.

Measuring about 40m wide by about one-kilometre long on both sides of the road, the stand of banksia was the remnant of a major stand.

It is infested with annual grass and weeds and is vulnerable to wildfire and rabbits.

The study will explore

ways of increasing the size of the stand by using fire, weed control, erecting rabbit proof fencing, ploughing the site and the direct sowing and transplanting of seeds.

The research will be done by Dr Byron Lamont, a senior lecturer at the Curtin University.

Another project will test three methods of eradicating isolated outbreaks of dieback on road verges.

This work will be done by CALM researchers who have experience with dieback in forest areas.

The third project will prepare a register of road verges valuable for flora conservation.

More than 400 volunteers throughout the State who were involved in the preparation of a national banksia atlas would assist the project.

The \$12,000 funding for the projects has been provided by the Main Roads Department and CALM.

## Walpole-Nornalup fire . . . BUFFER ZONES PROTECT AREA'S VALUES

THE importance of fuel buffer zones around country towns was illustrated recently by the large fire in Walpole-Nornalup National Park.

According to CALM's Executive Director, Syd Shea, the fire which passed close to the town of Walpole at one point, did not reach the town thanks to the prescribed burnt buffer.

However, the small community at Nornalup faced evacuation because there was little to slow its approach.

Senior Forest Officer Cameron Schuster said: "There is an emphasis on handburns around Pemberton, Manjimup and Walpole.

"Handburning is done in areas where the extra care must be taken to protect property and life.

"The area involved is small in size but the production and protec-

tion values are well above the increased cost of handburning.

Pemberton District Manager Bob Hagan toured Pemberton's fire buffer zone recently and explained how the buffer was created.

"Handburn 15" is an area of karri forest that stretches south from the Gloucester Tree to the Bunnings Mill.

Karri country has heavy fuels and steep slopes, country in which wildfire is dangerous.

The handburn is done at night to create a "cool" burn.

"The fire is lit at the top of the slopes and allowed to burn down-slope overnight, which gets rid of the litter, but doesn't damage the trees," Bob said.

## Practice prepares Region

A red ute speeds away from Rocky Pool in John Forrest National Park, and soon afterwards the report of a bushfire comes over the radio.

Mundaring District staff move into action to fight a fire spreading toward populated areas in the hills.

This "fire" never happened, but to ensure Mundaring District staff are ready if it does, a campaign fire situation was created to give them practise.

Organised by CALM regional, district and head office staff, the one-day mock fire exercise involved Bushfire Board representatives and a Mundaring policeman, as a campaign fire requires the cooperation of a number of groups like the State Emergency Service, BFB, shires and police.

Mundaring District Manager Tony Raven called the exercise "extremely valuable".

"As close as we could get it, we recreated the conditions to test our staff and their performance was excellent," he said.

"We're improving our system to handle different situations, and this is much better than waiting for a real fire to see how staff perform."

Similar exercises have been held at Wanneroo and at Dwellingup.

The exercise was as real as possible, with only the fire and the fire-fighting crews missing.

Colleen Henry-Hall



New steel reinforcements at the top of the Gloucester Tree.

## New lease of life

PEMBERTON's major tourist attraction the Gloucester Tree has had another 15 years put on its life.

The upper crown, attacked by fungus that had entered the tree when the original crown was removed to build the cabin, has been reinforced.

Former CALM engineer John Harding designed a steel structure with its base bolted to the tree where the wood was solid.

The work was carried out by R.M. Lee, who was awarded the contract, in mid 1985.

Annual inspections are done of the tree's wood, and it was from one of those tests that Manjimup Forester John Evans found that the ladder's karri pegs had deteriorated also.

Departmental staff have since replaced these with jarrah, a much more durable wood.

The tree also has new steel pegs and a safety cage that extends the entire height of the trunk.

## Meet Ranger Roopaw

THE newest member of CALM is Ranger Rollo Roopaw, currently stationed in the Ballsdup District. Part Forest Ranger, part National Parks Ranger, part Wildlife Officer, Roopaw daily faces the traumas of fires, tourists, District Managers and visitors from Head Office. Follow his adventures in CALM NEWS each month.

## From my Desk

Several weeks ago the West Australian ran an article, several pages towards the back of the paper, announcing that Westfi had won a major new export market for particle board.

Although it didn't rate highly in the paper it was good news for this Department and for the people who work in the particle board industry in this State.

The Australian market for particle board is highly competitive and without the export contracts the particle board plants may have had to reduce its production.

With the new contract it will mean that employment will increase, there will be a significant increase in export earnings, and we will be able to catch up on the thinnings backlogs in our pine plantations.

The successful export contract was achieved following several months of hard work by Westfi and CALM.

There is often discussion in the media about the need for private companies, Unions and Government to work together to release Australia from its disastrous trade deficit.

It is a pity that when this happens few people notice. In contrast to the good news story there has been a plethora of controversial forest management stories in the National and local press.

There is even a video, which is currently circulating in Perth and country centres, called 'The Last Stand'.

This film is very biased, inaccurate and highly critical of CALM. I have received many complaints and requests from staff to respond to the criticism.

On April 13, the Premier, Mr Burke, and the Minister for CALM, Mr Hodge, will be launching the forest management plans and the Timber Strategy.

Similar functions will be held at Manjimup and Bunbury on April 15 and 16.

The launch will include the premier of a film we have produced to introduce the plans and strategy.

We have also produced an educational brochure.

Prior to the launch all staff will be briefed on the far-reaching proposals in the plans and strategy.

I hope that as many staff as possible will participate in the education program that we will be running during the two month public review period.

The production of these plans was a real team effort.

Regardless of how they are received I thank all those people for the effort that was required to produce them.

SYD SHEA  
Executive Director.

By KEN ATKINS

**KEEPING a close eye on Charles Gardner National Park in the Wheatbelt Region paid off for Wildflower Officer Rob Coughran when he observed a group illegally cutting Cauliflower Bush (*Verticordia brownii*).**

He called on Pingelly Reserves Officer Rob Brazell and Wildlife Of-

## Big wildflower haul

ficer Leon Silvester for help, and they arrived 90 minutes later after a 140km drive.

Together they kept the area under surveillance, and were later joined by Wildlife Officer Trevor Walley from Perth.

The offenders managed to elude the Wildlife Officers but their ill-gotten gains and their camping equipment were left behind.

A combined search of the area exposed the full extent of what the group had done — a haul so big that more troops had to be called in.

A Department tip truck and trailer were requested from Narrogin for the next morning and Rodney Clifton, Reserve Management Assistant, who was doing reserve inspections near by, was also called across.

The Wildlife Officers

settled in for a long night's surveillance to make sure no one tried to pick up the produce.

Early the next morning, Acting Overseer Merv Beacham arrived from Narrogin and work began retrieving bundles of cut flowers and stacking them into the truck and trailer.

The work took six men over four hours to complete.

The result was 2000

bundles of flowers dispatched to Perth to be sold to the wholesale trade for 70 cents a bundle.

Although the culprits weren't taken, they definitely had a cold and uncomfortable night.

And they were deprived of the fruits of their labours, which due to combined efforts of operational and enforcement personnel, allowed for the speedy delivery of the seized material to Perth while it was fresh and saleable.

## RIC SHAPES UP

**A YEAR and a half after a car accident that left him paralysed from the neck down, Ric Althuisen is training for an international sports competition for the disabled.**

Ric, who was mechanic in charge at Mundaring before his accident, is the assistant mechanical supervisor at Como.

In April he will compete in the New Zealand National Disabled Games in the 100m, 200m, 400m sprints, discus, javelin, shotput, and wheelchair table tennis.

This is his first Games, a milestone it take most quadraplegics three to four years to reach.

"I decided I wasn't going to be dependent on people, and that meant I had to be as fit as possible so I could push myself anywhere and lift myself," Ric said.

Ric is a member of the Western Wheelchair Sports Association, a group of paraplegics and quadraplegics involved in sport and recreation.

They hope to hold the

Australian games in Perth in 1988, and have organised a raffle to raise money.

Ric's accident happened when he fell asleep at the wheel of his car while driving to Northam.

He was in hospital for 10 months, and it took him two months to become independent enough to start work.

The floor of the passageway leading into the Engineering module where Ric works was made flush with the inside floor and the hinges changed so it would stay open for him.

He takes the service ele-

vator from the ground floor to the second.

"I want to thank the Department for being flexible enough to suit my needs," Ric said.

"It was good to be able to come back to a position here."

"I also want to warn everybody against the dangers of driving while tired. Don't do it."

Help Ric and his team mates host the 1988 games by picking up a book of raffle tickets and selling them to your friends, or by buying a couple yourself.

Ric is in Engineering, on extension 284.



RIC ALTHUIZEN prepares to throw the shot put during training for the New Zealand games.

## LAKE MAGENTA STUDY

**SUCCESSFUL land management decisions depend on adequate knowledge and information.**

With this in mind, CALM recently contracted consultant botanist Anne Coates to describe the flora and vegetation types of specific areas on the Lake Magenta Nature Reserve.

"The information collected by Anne will greatly assist us to decide just where we should locate fire protection buffers within the nature reserve," said Wheatbelt Regional Manager Ken Wallace.

"Anne's work will help us to identify areas at risk on environmental grounds, and therefore to write appropriate management programmes."



Anne Coates

## Our attitude right

My contact in January with some of CALM's Rangers in the Strirling Ranges was a very positive experience.

I was impressed by their quiet, well-mannered, intelligent behaviour.

These fellows are to be congratulated.

While in the area, I talked with Americans, Germans, and Dutch travellers and we all agreed that this was a pleasant change for most of the officious government departments that seem to be abound in Australia.

As visitors to Australia, we notice the "don't care, won't help" attitude.

Perhaps Australians don't congratulate enough when things are good, grumbling among themselves at the bad.

JOHN M. ELLIOT  
England

P.S. I will certainly spread the good word about your department. Look after the attitude, the mountains will look after themselves.

The recent interpretation of the CALM symbol on the back of the widely distributed bookmark is a (unintended) slur on the large number of people dedicated to the management of our forests and other ecosystems.

"Wildlife" is but one component of that ecosystem.

I understood the green stripe represented the vegetation that we manage (and has an intimate relationship with the soil, air and water — and also provides a habitat for wildlife).

I have yet to see a green mardo, numbat, or woylie.

Come down South and see — our forests are fit and well. "The Last Stand" has not yet arrived, and the green stripe hasn't been chopped up by the pacman.

It's true that management is not up to the level of protection we would like, and won't be for a long time — particularly as we are trying to do more and more with less and less.

Maybe if resources continue to be depleted the pacman should chew away some of that green stripe.  
CHRIS MULLER  
Manjimup

THIS letter is forwarded to express my appreciation in the way that staff at your Walpole Office conducted themselves in a recent emergency at Walpole.

At about 10.15am, Wednesday, December 31, 1986, Albany police were requested to assist in the rescue of two people in the water, who had fallen overboard from a boat in the Conspicuous Bay area.

Mr Peter Bidwell, Controller at Walpole at the time, diverted the Forestry spotter aircraft to the area to assist in locating the persons in the water.

The pilot of the aircraft was Charles Osborne.

After carrying out an unsuccessful search he returned to Walpole, refuelled and obtained the services of an observer, Mr Rodney Burton, and returned to the area to assist in the search.

I believe that the aircraft was

## WALPOLE STAFF PRAISED

in the search area for just under an hour and had been diverted to assist in the search.

On behalf of the police personnel at Denmark, Walpole and Albany, please accept my appreciation for the assistance given in the search for these persons.

Although both persons drowned, it was not for the want of prompt action from you officers in the field and it is to them that our thanks and appreciation is extended.

Yours faithfully,  
ASSISTANT  
POLICE COMMISSIONER  
(OPERATIONS)

## LETTERS TO EDITOR

AS chairman of AMR Tree Planters I would like to thank CALM for its assistance and cooperation with our projects.

Access to the department's knowledge of species and planting site environments has been extremely helpful.

In particular Mr Commins at the Margaret River office has been an invaluable aid and inspiration to our group.

His assistance inspired us to plant on a much larger scale than we had previously believed possible.

Cooperation between the Shire Council, local farmers and ourselves was this year greatly increased and it was very much due to this open attitude by CALM.

A particular development from CALM's new relationship with council has been the concept of plantings facilitated by CALM and Council which will develop into usable timber for the shire in future years.

Now that the council can see a use for plantings as a timber resource it is much more inclined to extend finances in our developments.

It should be noted that our primary motivation is enhancement of the environment and not the creation of a timber resource, but if such motivations facilitate our plantings then we appreciate them.

Many thanks to CALM  
TREVOR MCGOWAN  
Augusta-Margaret River  
Tree Planters



Andrew Hill outside the Northcliffe Information Centre.

## New information centre to open on South Coast

A new information centre at Northcliffe, the gateway to D'Entrecasteaux National Park, will give tourists access to information on the area's landscapes, flora and fauna, ecology and cultural heritage.

Permanent displays will be set up in the transportable unit, which has already been installed on the site of the old district office.

The outstanding work that has gone into preparing the transportable was done by Northcliffe carpenter Kevin Sparrow.

Future work this year will focus on establishing a car park, wheelchair access and landscaping.

Displays will be prepared next year.

Facilities include a projector room that will be available for use by study groups.

Pemberton Recreation

Officer Andrew Hill said: "The road to Windy Harbour is the only bitumen road into D'Entrecasteaux, so this will be a main visiting point."

The centre is also a base

for National park Range Rick France and the Northcliffe overseer.

Also at the site is the development of two old forestry huts as accommodation for visiting university groups.

## LOGGERHEADS ON MAINLAND

FOR the first time in WA, Loggerhead turtles have been breeding on the mainland.

On a recent trip to Exmouth, Research Scientist Keith Morris and Greenough Regional Manager Geoff Mercer found the Loggerhead hatchlings on the beach.

The trip also resulted in the first tagging of Loggerheads on Muiron Island, Keith said.

"The Loggerheads were only known to

nest on Bernier Island at Shark Bay, but with these recent taggings, we have confirmation that they breed in other places," he said.

CALM recently received funding for the turtle tagging programme from ANPWS.

Now all four species of turtles found in the North-west coastal waters — Green, Hawksbill, Loggerhead and Flatback — have been tagged as part of the programme.



WEST MANJIMUP Nursery Overseer Domenico DeLuca examines open rooted eucalypt stock in one of the four beds at the nursery. The open rooted growing system is much cheaper than container stock because care is not as labour intensive and the transport of seedlings to planting sites is easier. The nursery is believed to have the most efficient open-rooted system in Australia, a great credit to the overseer.

## NURSERY RESEARCH

CALM's West Manjimup Nursery is conducting a number of research projects under the direction of Nursery Officer Lindsay Bunn.

### Computer budget system

Mike Onus of Woodvale has developed a budget-management computer programme (PC/MS DOS micros) for anyone who must manage a budget.

The programme provides a detailed record of all transactions.

It calculates the amount expended, the amount committed, the current balance, the amount that has been officially debited (and not debited) by Accounts Branch, and the uncommitted balance.

A comprehensive report is produced listing all the transactions that have been entered.

The programme provides a rich assortment of search and query functions, so if there is a need to refer to a record for any reason, it is easy to do so.

Jack Kinnear says: "I think Mike has produced a very useful system. You know where you stand financially at any point in time and it's very easy to use."

"If a mistake is made, the computer gently tells you so and suggests a correct course of action."

Mike says: "Since the programme was initially intended for use by Research Officers, it was important to keep it simple."

The system is in use by staff at Woodvale, Canning Bridge and Karratha.

Mike would like to acknowledge the help from Mike Choo.

Methods of growing pine trees from cuttings, stopping root binding in container eucalypt stock and assessing the quality of eucalypt seedlings grown at the nursery are all being worked on by nursery staff.

In the pine research, cuttings are taken from special donor trees and raised in a glasshouse on heated beds.

Trials are being done so the clones selected will greatly increase wood production and timber quality.

Selections are also being made to produce trees resistant to dieback, which can be devastating to pine forests.

Lindsay said that by using 150 donor trees that have been rated outstanding, the new technology being developed will enable the production of one million cuttings a year.

The West Manjimup Nursery is the source of most of CALM's pine stock.

Also as part of the accelerated breeding programme is a new Hedge Artificially Pollinated Seed Orchard (HAPSO), designed so cone pollination can be controlled and trees harvested with ease.

The nursery also raises eucalypt seedlings.

## PROGRAMME

Each year, up to 2.5 million open-rooted seedlings are raised for the reforestation of cutover karri and karrimarri coupes in the Southern Region.

Another 1.1 million seedlings of 30 different eucalypt species are raised in peat pots for outplanting on harsh and difficult sites each year.

Root binding has been a problem with containerised stock in the past, and root deformities can cause instability in a plantation.

Lindsay, on a recent trip to the US, uncovered some abandoned research on controlling root deformities.

Using this and his own research, he said that within 18 months he should have a technique to modify the root system of container stock by chemical means so they don't get root bound and they develop natural root systems.

"I'm beginning a large scale operations control this year, and if the technique works, it may revolutionise the way container trees are grown," Lindsay said.

## Honours for dieback study

JOE KINAL from Dwellingup Research Centre was recently awarded 1st Class Honours degree from Murdoch University for studies conducted as part of the Dwellingup dieback research programme.

Joe's work followed up the breakthrough in disease understanding made by Dr Syd Shea, Brian Shearer and Joanna Tippet in 1983.

They found that severe disease on an upland site was associated with poor drainage.

Joe set out to define the drainage characteristics of several sites with

varying disease impact.

With the help of Operations and Research staff at Dwellingup, trenches and various devices were constructed within the sites to measure water flow beneath the ground surface.

Joe spent many hours in the field monitoring major rainfall events and found, to his great discomfort, that they seemed to occur most commonly at night or at weekends.

He was able to identify differences in the movement of water and dieback spores between sites with varying disease impact.

Owing to the decline in value of the dollar, the rise in the cost of journals and a static library budget, a number of journals and duplicate copies are to be cancelled at CALM's library.

A review before the November 24 meeting of the Library Committee requested senior staff give their appraisal and recommendation of cancellations in subject specialist areas.

The library subscribes to about 178 titles at a cost of \$23,000.

Many of the journals are quite expensive, for example: "Biological Conservation" is \$581 a year, "Forest Ecology and

Management", \$398 and Water Resources Research", \$643.

Eighteen journals will be cancelled and only one copy will be received of the remaining journals.

With the savings, we will buy new journals that reflect new areas covered by the Department, including the following titles: "Copeia", "Journal of Herpetology", "Health and Safety Bulletin" and "Marine Mammal Science"

We will endeavour to obtain any information you need in whatever form.

And a full library service will still be offered for all, so please use it. — ELISABETH LACZO.

# Conservation plan for WA rainforests

The Commonwealth Minister for Arts, Heritage and Environment, Mr Barry Cohen, and the Western Australian Minister for Conservation and Land Management, Mr Barry Hodge, announced recently that \$179,500 would be spent in 1986-87 on research and survey in WA's rainforests.

The money was being allocated to two major projects, designed to increase knowledge of the forests and their conservation and management needs as part of the National Rainforest Conservation Programme.

Mr Cohen said the Federal Government had allocated \$7 million nationally this financial year for the Programme.

Relatively little is known about WA rainforests.

In one of the projects, \$61,500 is being made available for the mapping of rainforest between Broome and Cape Londonderry, including offshore islands, using aerial photographs.

At the same time, WA scientists will begin a two-phase ecological survey of the Kimberley region, at a cost of \$118,000.

Initially, a broad scale inventory of flora and fauna would be compiled together with data on physical characteristics of rainforest patches.

Classification of patch types, based on this information, would lead to the selection of

sites for more detailed sampling, including annual variations in species composition.

Mr Hodge said that although rainforest in WA occurred mostly in small patches in the isolated Kimberley region, the forest type was of considerable conservation value.



CALM Minister Barry Hodge signs the rainforest programme agreement as Barry Cohen looks on.

CONSERVATION depends on people.

Senior Clerk Flora, Mike O'Donoghue, was working through some files and came across Pimelea rara.

He noted that it had only been collected three times, the last occasion being in 1919, in Parkerville.

"Here you are, Penny" he said, handing it across to Penny Hussey, the Roadside Vegetation Officer, "perhaps someone out for a drive in the Hills might spot it!"

The plant flowers in January, an unusual time for Pimeleas, but is so little known that one couldn't even say the flower colour.

Penny publicised it in the Newsletter of the W.A. National Parks and Reserves Association, and at a meeting of the Eastern Hills Branch of the WA Wildflower Society. Perhaps someone would spot it — no real hope though.

After all, it hadn't been seen for 79 years.

## SOMEBODY CARED . . .

It's probably extinct. Then in mid-January, Mrs Loraine Graham of Eastern Hills Wildflower Society, rang Penny.

"We went for a Sunday drive and noticed a flowering Pimelea along a forestry road in the Hills. Do you think . . .?"

Penny rang Dr Barbara Rye, the Pimelea expert at the WA Herbarium. "Do you think . . .?"

Barbara went to look, and did think!

She rang the Flora team at Woodvale "Pimelea rara has been found!" It's still rare.

Eight plants, all close to a road.

But it's no longer "probably extinct".

All it takes is people who care.

## JOURNALS GO IN LIBRARY REVIEW

## Videos available at Como

A VIDEO library containing titles relevant to CALM's interests and operations has been established in the Information Branch Resource Centre at Como.

Staff are invited to borrow the videos by contacting June, ext 295, or Margaret, ext 224.

Titles currently held on video include: National Parks — Playground or Paradise; Dolphins in Captivity; The National Tree Program; The Death of Trees — Shanon River Basin; Forests Forever; North of Nutcracker; Ash Wednesday Fires; Timber Craft Artisans of Australia; Pilbara

Gardens; Shannon River Basin; and Augusta Whale Rescue.

A complete catalogue of titles will soon be available.

Branch Managers assistance is sought in returning all departmental videos in their possession to Information Branch for inclusion in the library.



CHARLIE BROADBENT holds the Brian Hodge Memorial trophy.

## Another title to Charlie

**FORESTRY** is a rewarding occupation, but to some people it does have one drawback — you might just get settled into a town and a job when, because of circumstances, you have to move on.

But over the past 30 years or so, when Busselton District Forester Charlie Broadbent has been transferred he has packed his golf clubs and looked forward to the challenge of conquering new fairways and greens and winning a club championship or two.

Charlie took up golf as a 14-year-old in 1958 at Shannon River where his father was working as a forest assistant.

It was back at the Shannon Park Club in 1968 when he won his first championship after graduating

from Dwellingup in 1965.

Charlie, who was more than a useful footballer and won the SWNFL's goalkicking award in 1965, decided to give football away in 1971 to concentrate on golf.

The line-up of golf trophies on the mantelpiece of his Busselton home is testimony that his decision was the right one.

In 1975 he won the Collie Golf Club Championship, the forerunner to a remarkable run of successes which saw him win the Nannup Championships four years in a row — 1976, '77, '78, '79.

In 1980 he was runner-up in the Manjimup Championship, and following his transfer to Busselton in 1983 he won the Busselton Club Championship in 1985.

Charlie's list of golfing achievements include winning the Walpole

and Northcliffe open days, the Pemberton King Karri Cup and being a member of a successful country week foursome team.

He was also a member of winning niggerhead trophy teams while stationed at Collie, Nannup and Manjimup, and has regularly participated in the Forestry golf day, winning the event twice.

Last year he won the inaugural Brian Hodge Memorial Trophy at the Nannup Golf Day.

Charlie, who plays off a nine handicap, won the trophy with 73 off the stick, and on current form he will be a firm favourite to repeat his success at Nannup on October 10. (Modesty forbade Charlie mentioning it, but he was also a useful dart player winning championships at Nannup, Collie and Manjimup.)



WALLY EDGECOMBE (right) and Michael Hughes inspect trees grown by effluent at Karratha. Photograph Courtesy West Australian.

## Trees from waste water

**TREES** grown in effluent at Karratha could one day supply enough firewood for the Pilbara's national parks.

District Forester Wally Edgecombe reports that trials are continuing into growing River Gums and other tree species watered by excess processed scheme water from the Millstream aquifer.

"We have used this trial to evaluate as many selections of River Gums as we can lay our hands on and see what growth rates and production we can achieve," Wally said.

After one year of growth, the mean height of trees in the three hec-

tare trial area is about four metres, while some individual trees have reached six metres.

Studies done in Alice Springs show yields of 20 tonnes a hectare a year from about age 5.

The soil at Karratha is quite heavy and the trees are grown on the high water mark of flood canals.

Wally said he thinks better results would be achieved if flat bottomed ponds were created and the trees on them flooded from time to time.

## SOFTWOOD GROWTH

**CONSERVATION and Land Management Minister Barry Hodge announced recently 550ha of privately-owned land in the Albany district would be planted with radiata pine this year.**

Mr Hodge said the planting was under the terms of CALM's softwood sharefarming scheme which had attracted the interest of many local farmers.

The department was finalising negotiations with three property owners while discussions with another two property landowners for 430 hectares were well advanced.

The scheme was being expanded to the Albany district to produce radiata pine sawlogs for a milling industry in Albany.

The scheme was more suited to larger properties and CALM was assessing areas upwards of 40 hectares. But the average area being offered was 100 hectares.

Other requirements were an average rainfall of more than 700mm and a sandloam depth of more than 50cm.

CALM had received many applications to be included in the 1988 plantings, and more were being sought.

## ANPWS BACKS EUCALYPT STUDY IN WA

**A grant of \$12,000 from the Australian National Parks and Wildlife Service will be used by CALM to survey rare WA eucalypts.**

Research Officer Dr Steve Hopper said some eucalypt species in WA, especially those found in the Wheatbelt, were rapidly disappearing.

WA has about half of the 2206 plant species listed as rare and threatened in Australia.

The funding would enable the survey of the endangered eucalypts and a mapping of their locations to assess any

environmental aspects that may threaten their existence.

Steve said that because botanical survey in WA is uncoordinated, each year many populations of endangered flora are destroyed in ignorance by clearing for agriculture, and more than 50 species are now presumed extinct.

The project aims to

provide effective coordination and increase the level of survey for WA's large number of rare and endangered eucalypts, Steve said.

The project will make extensive use of the newly developed computer system FLORAPLOT, which enables point location plotting of precise geographic data for species.

The grant money will be used to hire a botanical consultant for two years to coordinate rare eucalypt surveys by CALM staff and others, including interested volunteers, and to ensure that their data are recorded and accessed onto FLORAPLOT.

"Conservation of WA's rare and endan-

gered eucalypts is an immediate problem of national and international significance," Steve said.

"There are few areas in the world with such a large number of restricted endemic trees and mallees that are threatened by such widespread destruction of their habitat."

Congratulations to Peter White and Linda Simpson on their marriage on September 20, 1986, at the Old Mill — South Perth.

Peter and Linda spent their honeymoon in Hong Kong and Penang.

Peter is Officer in Charge of the Broome Nursery (Kimberley Region).

CALM staff in the Kimberley wish Peter and Linda lots of happiness in the future years together.

## Senior Inspector dies suddenly

**ERIC Wells, Senior District Inspector, Timber Industry Regulation Act, passed away suddenly at his home at Bunbury on January 18, aged 56.**

Between 1967 and 1985, under Eric's leadership, the Inspectorate was largely responsible for a dramatic decrease in the accident rate within the sawmilling industry.

Before joining the Forests Department in April 1961, Eric was employed as a twin sawyer in the Worsley Timber Company's Margaret River Mill.

He and his two brothers had operated their own sawmill at Rosa Glen under contract to the Adelaide Timber Company before Eric joined Worsley.

Eric's first posting with the Department was as a Forest Guard at Pemberton.

He was transferred to Carinyah in February 1962 and promoted to Forest Ranger and then to Assistant Forester in July 1965.

In October 1967 Eric resigned from the Department to take up the appointment of District Inspector under the Timber Industry Regulation Act and was promoted to Senior District Inspector in July 1984.

It was largely due to Eric's work and that of his colleagues that the number of lost time accidents dropped from 767 in 1967 to 148 in 1985.

Eric's funeral was held at the Bunbury Crematorium on January 20, at which there was a very large and representative gathering from the timber industry, West Australian Timber Industry Industrial Union of Workers and present and former Departmental officers.

## RESERVE SIGNPOSTING A SIGN OF THE TIMES

By IAN KEALLEY

**GOLDFIELDS region officers recently completed signposting of the region's remote Nature Reserves.**

The signposts, made at Jarrahdale, were installed during field trips in April and September.

The signs were located at the reserve boundaries on major tracks through the reserves.

In April Foresters Tagliaferri and Rooney installed four signs at Plumridge Lakes Nature Reserve, four signs at Neale Junction Nature Reserve, and two signs at Yeo Lake Nature Reserve.

This trip which also involved inspection of sandalwood operations south of Plumridge Lakes Nature Reserve involved a 3000km round trip.

400km was involved in installing the four signs at Neale Junction Nature Reserve.

In September Dan Grace, while on research work, installed four signs at Mungilli Claypan Nature Reserve, and four signs at Gibson Desert Nature Reserve.

This also involved a 3000km round trip as these reserves are 500km and 600km east of Wiluna on the Gunbarrel Highway.

Signposting of the remote area nature reserves is important as it makes people aware of their location and value.

With the increasing use of remote desert roads by 4WD enthusiasts signposting is increasingly important.

Although remote, these reserves are still used.

The first person to note the Gibson Desert Nature Reserve sign arrived two hours after Dan installed it on the remote Lake Gruszka track, North of Mt. Beadell.

Another example was on a recent trip to Plumridge Lakes Nature Reserve a party of geologists and drilling contractors referred to a lease location as "30km North of the Nature Reserve sign".

The sign not only alerts the traveller to the reserve but serves as a navigation point.

The remaining remote Nature Reserves will be signposted this financial year as money and field trips permit.

## Landscape Goldstar competition update

**YOU'VE** read or heard about the Landscape Gold Star Competition, so ring John Hunter on (09) 367 0439 and he'll send you some competition subscription forms and give you the low down on the whole deal at the same time.

It'll be so easy to win this competition if you start now — if you're stationed in a remote area and your five contacts subscribe, you might be off to the Bungle Bungles, all expenses paid and in work time too.

The Landscape Gold Star is really worth it, and there are thousands of the public — friends and relatives — who don't know about it yet. Who better to tell them than a CALM officer?

Remember, you only need some yellow subscription forms. Put your name in the space provided and hand them out — to anyone.

And call John Hunter — he'll give you some more clues.