COMO MESOURCE CENTRE DEPARTMENT OF CONSERVATION

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further 90ha from shire

Alcoa's Environmental

Scientist John Day, CALM

and Alcoa undertake dif-

ferent phases of the

pleted. Alcoa returns the

overburden and covers the

surface with topsoil before

The land is then ripped

CALM's work, carried

and seeded with an

understorey scrub seed

out by crews and supervis-

ed by Overseers Mick

Golding and Bill Saunders,

consists of a number of

treatments, or rehabilita-

tion prescriptions, which

A dry site, for example,

which is resistant to

dieback may be planted

with a mix comprising

yellow stringbark, marri, spotted gum and E.

Rehabilitation also in-

cludes a number of

treatments for dieback-

infected forest, including

the removal of salvageable

timber and the clearing and

Another treatment,

especially for future mining

areas, is the removal of

banksias to promote a

legume understorey which

might increase the area's

resistance to dieback

replanting of the area.

depend on the site.

resinifera.

establishing drainage.

After the mining is com-

While he liaises with

gravel pits.

operation.

landscaping

Forest rehabilitation

EARTHMOVING

OPERATIONS

AT MINE SITES

BY Colleen Henry-Hall

the Jarrahdale, Dwellingup and Harvey districts do their

under the Forest Improve-

For Jarrahdale Forest

Ranger Greg Standing the

scheme is a challenging

Greg is responsible for

rehabilitating about 110ha

of mine sites a year, with a

Rehabilitation

work following major earthmoving operations.

Scheme.

Register of

rare flora

For CALM to protect and manage the State's

rare flora it's important to know the locations of the

Graham McCutcheon, Environmental Protection Officer at

A copy is available at each district and regional office in the

The large, loose-leaf notebook lists each district's gazetted rare

It contains only declared rare flora, but species classified rare

The register was compiled for the forest regions first because

or geographically restricted will be added as a separate section.

of the forestry operations and the recreation facilities in those

To compile the register, Graham started with Head Office wild-

He culled those to come up with species that occurred in the

three forest regions, and then went through the files again to

find more specific information in wildlife officers' reports.

His research also included talking with district officers.

The information in the register is not exhaustive, and Gra-

According to Frank Batini, Manager Environmental Protec-

"We see this work as complimentary to what Greg Keighery

"This is a compilation of available information, while their

tion Branch, it is intended to complete a register of rare plants

and Stephen Hopper (CALM botanists) are doing," Frank said.

ham said he hoped district staff would add to the register any

knowledge they have about rare flora in their districts.

in the South Coast Region in the near future.

work is in gathering that information.'

Bunbury, has recently completed a rare flora register for our

plants when planning operations.

life files on each gazetted specimen.

flora as of May 1986, and shows their locations.

In bauxite mining, the

jarrah forest is cleared and

the topsoil and overburden

scraped away to expose the

While CALM officers

are responsible for the

rehabilitation, Alcoa pays

These three districts

received \$620,000 in 1985

bauxite ore.

most of the cost.

Rehabilitating Alcoa's mine pits demands foresters in

Unique wedding setting

EIGHT hundred metre high Dinnertime Hill, which offers panoramic views of the Hamersley Ranges and plains, with Mt Bruce towering in the background, was the unique bush setting chosen by Jim and Tilly Wolfenden for their wedding on September 7.

The bridal vehicle was adorned in CALM coloured ribbons, with a bouquet of local bushflowers on the roo bar.

Tilly's flowergirl, Tina Wolfenden, was delightful in her fur coat and pretty pink bonnet.

Tina behaved perfectly during the wedding skipping about, cleaning her paws and finally opting for the shade under the bridal Nissan. (Tina is a joey).

Jim, a Mobile Ranger, was in full Ranger uniform, as were the other Rangers attending.

Following the wedding, the bridal couple, with family and friends drove to "Joffre Homestead", Jim and Tilly's mobile residence in the heart of the Hamersley Ranges, where the celebrations continued.

Best wishes to Jim and Tilly



TILLY slips the ring on Jim's finger.

EFFORT AT A COMMITMENT to their work, their BUNBURY

workmates and CALM might explain why 64 men and women in the Bunbury Region have gone four years without a lost time accident, the Minister for Conservation and Land Management, Barry Hodge, said recently at a Bunbury Safety Presentation.

He said: "Your Safety record shows that you are all contributing towards a common goal, according to your special abilities and your particular activities.

"The common denominator among you is commitment.'

Also attending the Executive Director's Safety Award presentation were Executive Director Dr Syd Shea; MLA for Bunbury, Mr PJ Smith, and Safety Officer, Arthur

The event was in recognition

during the recent Safety Presentation at Bunbury.

Mr Hodge said the Government was taking steps to minimise the problems caused by industrial accidents

"Currently we are working on the extension of the existing safety and health legislation to cover such areas as the employer's duty of care;

responsibilities of both employers and employees; consultation procedures between unions, employers and employees; and other related matters," he said.

He said the legislation may be introduced during the com-

these measures may take some time, but in the long term, they will result in a reduction of the toll of accidental injuries in our community," Mr Hodge

The Minister also presented the Region with the Industrial Foundation for Accident Prevention's Award of Merit

Lane-Poole Award Winners ing session of Parliament.

> Tony, a Training Officer at Dwellingup, will visit the Eastern States and New Zealand to study staff training and career development, which will help improve the current training system and career development for CALM staff.

ward are Tony Brandis and Gerard van

Gerard, a Forester in the Fire Protection Branch at Como, will visit land management and bush fire authorities in the Eastern States, the NT and the ACT to gather information on aerial prescribed burning

WINNERS of this year's Lane-Poole equipment which will enable future planning and development of incendiary equipment on a national scale.

The Lane-Poole Award is made from a trust established by Mr Dennis Cullity as a tribute to Mr Lane-Poole, a close friend of his father, who founded Cullity Timbers.

The trust was established to commemorate the foresight of WA's first Conservator of

The award was first made in 1983 to Paul Marsh and Ray Fremlin.

Graeme Hutchinson was the recipient of

THE realigned Bibbulmun Track is taking shape and should be ready for intrepid walkers

Recreation Projects officer Drew Griffiths, who is in charge of the changes, is still waiting for information from some districts on the track's route before completing the new guidebook.

That information will go to mapping and the maps will go back to the districts for a final check. BRUCE HARVEY (centre) accepts his award from Mr Hodge

It will then go to the policy directorate, before CALM officers walk the track to check the information

before the guidebook is published. At the moment, maps are being drawn up and the track marked by district staff.

When all is ready to go, the new distinctive track markers will be put up and the old taken down all in one week to avoid confusing walkers.

The new guidebook will contain only maps, with no written description of the route.

"When you're walking you don't read the words, you look at the map, so the maps in the new-look guide-

book will contain all the information a walker needs," Drew said.

Drew has also nominated the new Bibbulmun track for inclusion in the Heritage Trails Network for the 1988 Bicentenary.

The \$27,000 grant, if approved, would provide money for establishing 10 interpretive sites along the track, describing areas of significant historical value.

Also in the pipeline is a walk along the entire realigned Bibbulmun track in 1988 as an official opening for the Heritage Trail.



of the Region's 12-month safe-

ty record.

From my Desk

AS a former District and Regional Manager, I've done my share of weekend work. Indeed (at the risk of showing my age) I can recall when

we did it for love. No overtime, no days in lieu, no rosters.

If you were the boss, you "minded the patch", on any day when it didn't actually rain, from November through to April, every summer.

As a former Conservator of Forests once rebuked me after 10 years of this: "You can't complain - you get every winter off!"

These days my weekends have a special value - I work when I want to, not because I have to.

But on the first two weekends in October, I had official functions to attend.

Although official, I considered the first an honour and

the second a pleasure. On Saturday, October 4, I was invited to attend the Annual General Meeting of the Field Officers Association at

This was an honour, because I have a long association with, and a very high regard for, this Department's field officers.

They are at the "sharp end" of our management plann-

They are the men and women who have to make things work on the ground, often in the face of opposition or physical hardship.

For more than 50 years, our field officers have a proud record of achievement and loyalty, and have developed a tremendous range of technical expertise.

Maintaining the strengths and versatility of our field staff is one of my personal aims in CALM.

I, therefore, welcomed the chance to talk to them about their worries and aspirations. A weekend later, I was at Manjimup for the official

opening of our new office and the Forest Tours set up by the Forest Products Association. The latter are designed to take tourists out into State

forest to inspect forest conservation programmes (from the reserved areas to those being logged and regenerated) on Our field staff are involved to the extent that they pro-

vide advice to visitors on technical matters of silviculture and industry regulation at predetermined points on the

I believe these tours are a tremendous innovation.

Until now, most tourists could not visit timber production and regeneration areas and many had formed the impression that our karri forests were abandoned after logging, or replanted with pine.

CALM staff who talk to forest visitors on these tours have been instructed not to debate questions about whether timber production is or is not a desirable land use as far as we are concerned, this is a matter of Government policy.

Our job is to ensure that the forest is managed as a renewable and sustained resource.

And this is a task in which CALM's field officers have long experience and great skills - something they can be proud to display to interested forest visitors.

TRAINEE RANGERS

A THREE-WEEK trip by CALM's Aboriginal trainee rangers ended with

to select sites, it would be good

to do similar things in the

trainee rangers stopped at Tur-

key Creek and met with the

Turkey Creek Aboriginal com-

through the Osmond Ranges

of the Bungle Bungles by Ray-

mond Wallaby, who spoke ex-

tensively about the history of

From Kakadu, they went on

to Darwin to visit the Yar-

rawonga Zoo, the Darwin

Museum, a crocodile farm,

and the Howard Springs

Hamersley and Millstream na-

to Kakadu recently. Ron Hollands and Keith

Cunningham accompanied

four Aboriginal members of

the Aboriginal Ranger Train-

ing Steering Committee to the

Park to observe the Ranger

ing to Tony Start, was to see

first hand the role of Aborigi-

nal rangers and to look at the

involvement of the Aboriginal

The aim of the visit, accord-

Training Programme.

CALM Rangers from

The group also was shown

On the way to Kakadu, the

INSPECT KAKAI

Pilbara

the area

Reserve.

Thanks Mapping

OVER the past few years I have had numerous occa-

Each and every time I have received the utmost in as-

More recently, I received assistance and advice which

The work done was not only accurate and reliable but

I believe attitudes such as those shown by Mapping

Branch are what will bring this Department closer

together and make us one cohesive unit. - DREW

GRIFFITHS, Recreation and Landscape Branch.

saved me considerable time and effort, at a time when

I believe was above and beyond the call of duty.

I was under considerable pressure.

sions to use the services of Mapping Branch at Como.

sistance, courtesy, and above all, satisfaction from the

General Manager

a visit to Kakadu National park.

The trip gave the trainees

the chance to see first hand

how the Aboriginal communi-

ty works with the Australian

National Parks and Wildlife

Service in managing Kakadu.

ker, Maitland Parker, Bruce

Woodley and Robert Cheedy.

were accompanied by Training

Officer Steve Szabo and joined

at Kakadu by Pilbara Region-

Kakadu also runs an

Aboriginal Trainee course.

and CALM's trainees met and

talked with the Kakadu

trainees.
In his report on the trip,

Tony said: "CALM trainees

felt that they and our scheme

were equal to in most respects

respects the Kakadu scheme."

many of the natural attractions

at Kakadu: Ubirr Rock, "The

Rockholes", Anabangbang,

Blue paintings, Jim Jim Falls.

rangers observed and discussed

included public access to and

exclusion from Aboriginal

Tony said the trainees felt

that if WA elders were willing

Other issues the traince

The trip included visits to

al Manager Tony Start.

The four trainees, John Par-

Ethno-botanical garden reflects ancient arts

myth, ritual and art. Today, however, with the passing of tribal elders and changes to traditional lifestyles, the knowledge of the native flora that helped them. survive is being lost, despite the Aboriginal elders trying to promote the old ways.

In an effort to assist them, CALM and the Department of Conservation and Environment undertook a CEP project to collect information on plants and trees used by Pilbara Aborigines.

Initially it was planned to publish a booklet for distribution among Aborigines, to show them the native flora

used by their ancestors and to encourage them to grow these plants around their homes and community centres.

But because of the interest in the project it developed more practical aspects, with the collecting of plants and seeds, their propogation at the Karratha nursery, and the establishment of an ethnobotanical garden at the Karratha College.

About 50 species of trees and plants used by Aboriginals for such purposes as food, medicine and weapons were collected.

Twenty of the more common species are being grown at the botanical garden.

An Israeli water harvesting technique that uses water runoff from roadways and carparks has been installed, and the garden landscaped. A walk trail allows people to wander through the garden.

One of the longer term aims apart from its obvious attraction to tourists - is for local government authorities and residents to use native plants instead of exotics for landscaping.

While all the plants and trees in the garden are attractive in appearance, they also have special significance to the Aborigines.

Often a particular species

The appearance of a bird in an area at a certain time of the year - for example an eagle or parrot - might indicate that nuts or berries were avail-

and natural phenomena are

able and it was time to migrate to that area.

This would particularly apply to the Ruby Saltbush which is grown in the garden.

Another representative species is the Cockroach bush whose seed pods are a favourite with emus.

When the pods were available the Aboriginal knew that emus would be around and that they would be fat and in good condition.

When the White Dragon Tree flowered, it was the time to collect nectar.

NEW S.W. PINE PLANTATION SHAPES UP

By ALLAN SEYMOUR

"ON the road to Mandalay" may conjure up visions of far off places, or for people who know the Walpole area, a fishing

It has nothing to do with

FOR thousands of years

Aborigines survived the harsh

Pilbara environment — like

they did throughout Australia

- by adapting to the land

Although there were not

many Aborigines throughout

the continent before Europe-

500,000 — they survived year

after year and in good times

and bad. They did this through

experience and experiment.

and as hunters and food

gatherers they accumulated an

immense knowledge of their

While the Pilbara has never

been a land of milk and honey

for the man trying to live off

the land, Aborigines knew

how to obtain and prepare

food using skills and equip-

ment passed down by word of

Furthermore, their hunting

and food gathering was woven

mouth for centuries.

perhaps

an occupation

environment

rather than trying to exploit it.

Mandalay Plantation is the latest addition to CALM's softwood plantation estate in the Kirup District.

The story of Mandalay begins in 1985, following its purchase by CALM for pine establishment.

Mandalay Farm, as it was then known, was the latest property bought in the Central Region for pine establishment.

In the Preston River Valley east of Donnybrook, Mandalay forms a new plantation cell. The closest existing plantation is Grimwade, about 10km south.

As late as March this year, the property was grazing sheep and cattle.

In five months the plantation was fully prepared and planted. This included the construc-

tion of 17km of roads and the clearing of a patch of scrub, and salvage of paddock trees.

Of 580ha, 390ha were planted with Pinus radiata as part of Kirup's 1986 pine planting programme.

Another 15ha were planted with eucalypts, mainly E. muelleriana.

The remainder was unavailable for planting due to largely uncleared areas of non-plantable soil grades and the requirements for roads, firebreaks and stream reserves.

In planning Mandalay Plantation, landscaping was a major consideration because of its inherent scenic values.

These values were retained in the planning and establishment phases of the plantation's development by



Kirup Forester Roger Banks looks ocer the Mandalay Plantation. Roger was officer in charge of the establishment programme.

amenity plantings, while following the overriding aim of maximising the area for pine establishment.

The end result has been to minimise the visual impact of the plantation on the landscape with minimal loss in the total area planted to pine.

The 1986 pine planting programme for Kirup was completed on August 20, marked by the unceremonious heeling of the last pine seedling.

With assistance from Nannup District, about 950ha of

sibility for William Bay Na-

Porongorups until rangers

Jack had a heart attack

about a year ago and since

then has worked at the

He said he was happiest dur-

ing his time in the Stirlings,

where he met many different

people, all interested in the

Regional Office at Albany.

were appointed there.

Park and the

PENNEY HUSSEY has been appointed Executive Officer of the Roadside Vegetation Conservation Committee. As the committee's first such officer, Penny is

Penny appointed

executive officer

responsible for servicing the committee, which includes compiling agendas and organising meetings. The RVCC was formed in 1985 in response to pub-

lic concern over the deterioration of roadside vegetation.

Using maps and aerial photographs, Penny looks for roads with swathes of vegetation along them.

Locating these roads may also require an on-site inspection of the area.

'Once I've found these special roads, the committee will advise on the best Penny said.

Another of her projects will be to develop a set of guidelines on gravel extraction for local government operations.

Penny said roadside vegetation was often cleared to extract gravel for country roadworks.

Her guidelines would help preserve that vege-

Penny was a secondary school teacher in science and law before becoming the RVCC Executive Officer.

She has long been a plant person", having a degree in botany and being involved in voluntary conservation groups.

She is based in the Wildlife and Lands Administration block at Como.

She would like to hear from CALM officers who have had any contact with road verges - what the problem was if any, and how it was resolved.

1988 Churchill **Fellowships**

The Churchill Trust invites applications from Australians, of 18 years and over from all walks of life who wish to be considered for a Churchill Fellowship to undertake, during 1988, an overseas study project that will enhance their usefulness to the Australian community.

No prescribed qualifications are required, merit being the

Fellowships are awarded annually to those who have already established themselves in their calling. They are not awarded to students or for basic study, nor for the purpose of obtaining higher academic or formal qualifications.

Details may be obtained by sending a self-addressed stamped envelope to:

The Winston Churchill Memorial Trust GPO Box 478, ACT 2601.

pine, mainly radiata, was es-

tional

JACK ANDREWS.

one of the first National Park Rangers on the

community in managing

The community members

who went to Kakadu are Slim

Parker, Horace Parker, Yilbie

Kakadu.

south coast, has retired. Jack, National Park Ranger at Torndirrup, was the first resident ranger at Stirling Range National Park, and also was responsible for looking

after the Porongorups. Jack joined the Natio Parks Board in January 1966, and was based at John Forrest National Park, where he did construction work on the

bridge of Hovea Falls. Jack is particularly proud of the bridge over Lesmurdie Falls, which he designed and helped build.

In October 1966, Jack was appointed Ranger in the Stirlings, and he moved south with a caravan to supervise the building of the Ranger's house at Moingup.

In the Stirlings, Jack was responsible for the construction of 800km of fire lines through the Park

He walked the lines with a compass and the bulldozer behind to ensure they were

In 1973, Jack was transferred to Torindirrup to become its first ranger, with respon-

HUGH CHEVIS: from District Manager, Walpole, to District Manager, Albany.

ventory Branch, Bunbury, to Manjimup to work in the softwood sharefarming area.

PETER BEATTY: from In-

First-aid skills

helped a group of people learn a very valuable skill: how to save

In a presentation at State Headquarters recently, General Ambulance Association First Aid training course.

The qualified first aiders are: Bill Arbery, John Arkey, Kerry Carmichael, Mark Dalton, Kate Kirwan, Frank Mansillas, Carolyn Milligan, Greg Pobar, Esther Segal, Tom Wood and Lin Wong.

they would accomplish three things. Firstly, they should be able to save lives, and secondly, to pre-

vent injuries from worsening before medical attention is available. And lastly, to help train others in the correct way to give first

DAVID MEEHAN: from District Manager, Nannup, to Officer in Charge, Inventory Branch, Bunbury PETER MOORE: from In-

ventory Branch, Bunbury, to Fire Protection Branch, Bunbury.

JOHN CLARKE: from District Manager, Harvey, to Timber Production, working in the hardwood timber production area at Harvey.

GREG STRELEIN: from Research, Manjimup, to Inventory Branch, Bunbury. LUISA de BRAGANZA:

from Busselton Research to Recreation and Landscape Branch. PETER HENDERSON:

from Forest Officer, Harvey, to District Manager, Harvey.

from Forest Officer, Nannup, to District Manager, Nannup.

CALM'S First Aid Instructor Harold Pears has once again

Manager Roger Underwood congratulated Harold for his efforts and praised the 11 people who voluntarily took the St John's

Mr Underwood said that with these first aid skills, he hoped

ROGER ARMSTRONG:

for overseas study

primary test whether based on past achievements or demon-strated ability for future achievement.

Completed application forms and reports from three referees must be sub-Friday, 27 February 1987.

Groundwater studies at **Dwellingup**

RESEARCH into how thinning the jarrah forest affects the production of water is continuing under the direction of Research Officer Geoff Stoneman.

Geoff recently presented an update on his work on streamflow and groundwater from Dwellingup's Yarragil 4L catchment at a research seminar at Como.

His studies show that the increase in the amount of water due to thinning is related to the effect of thinning on the leaf area of the trees.

Geoff's research into increasing the yield of water in the jarrah forest is important for a number of reasons.

Most of the Northern Jarrah Forest has a land use priority related to water quality and quantity.

As the population grows, there will be increasing conflict over the management of the area for water catchment as more people begin to use the jarrah forest for recreation.

RESEARCH Officer Geoff Stoneman (left) answers questions from Graeme Siemon (centre) and Greg Strelein following Geoff's seminar on water production in the jarrah forest.

And within as little as 50 years, Geoff said, all sources of water in the South-West will be committed for water supply, an estimated 70 percent of that supply coming from State

Geoff said thinning the jarrah forest has pay-offs in two

The first is increased flow in catchment areas

Geoff reported that the production of water with this method is likely to be much cheaper than other options for water supply that will have to be explored as demand increases

The second is that thinning provides saleable material for

Yarragil 4L, in the jarrah forest near Dwellingup, is the first research project in catchment monitoring of this type. Work at Yarragil started in

1976 when a number of rainfall, streamflow, and groundwater monitoring instruments were installed.

The catchment was logged and then thinned in 1983 to about one-third the density it was before.

Monitoring of streamflow showed very little response in the first two years following thinning, however groundwater levels have steadily risen in response to the thinning.

Geoff attributes the lack of a streamflow response to the large soil water storage capacity of jarrah forest soils.

The groundwater response observed is a reflection of increases in the soil water





PETER Collins receives the infamous "Golden Arrow" Award from Albany District Manager Terry Passmore.

SOUTH COAST SEMINAR

THE Fourth Annual South Coast Regional Seminar, held in Esperance, was highly successful.

Wildlife Officers, Foresters, National Park Rangers, and staff from the Albany and Esperance offices spent four days hearing updates on major regional issues and participating in syndicate exercises.

The themes for this year's seminar were: trees on farms, dieback disease and seven-way tests, and interim management programmes

Field excursions were made to Helms Arboretum and to Cape Le Grand National Park.

The syndicate exercises comprised a (theoretical) road development at Cape Le Grand and the writing of an interim manage-

rows, Fire Research.

cricket match in which the Albany Office beat bany District and Esperance District, and the Annual Dinner at which the Albany District Wildlife Officers received the infamous "Golden Arrow" Award (most fires of the season - this year on nature reserves), and at which Ian Solomon from Cape Le Grand National Park received the 1986 South Coast Region Meritorious Award.

URPLUS HOUS

- JOHN WATSON.

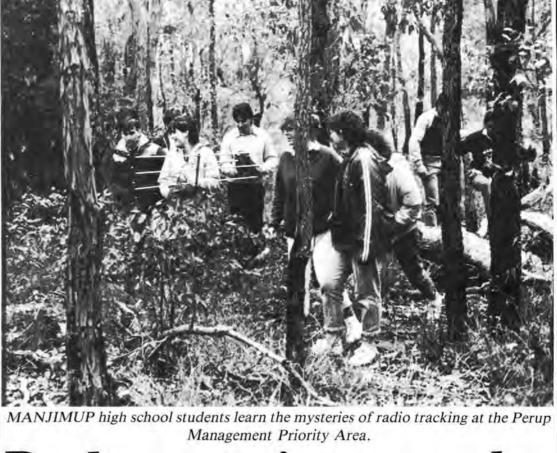
ment programme for the park.
Visitors to the seminar included Roger Un-

derwood, General Manager; John Humphries, Narrogin; Frank Batini, Environmental Protection; John Smart, Fire Protection; Neil Bur-Social highlights were a round robin indoor

Alex said this, together with the no eviction commitment, will mean that the houses will be sold over several years.

Kerry McKnight, who is coordinating the disposal of the houses, said subdivision plans are in progress for settlements on State forest land and reserves in Harvey, Nannup, Pemberton, Walpole and

Subdivision proposals for Dwellingup have been approved and discussions with local authorities at Collie are



Bush excursions popular

CALM'S Research Officers at Manimup have been sent back to school to help out with the local high schools'

Since May, Research Officers have been giving regular classroom lectures on a range of topics including general forest biology, population dynamics, forest fires and forest management.

However, the most popular exercise

with the students has been day excursions into the forests near Maniimup.

Apart from getting a break from the classroom, the students are eager to touch, see and learn about our famous animals such as the Numbat, Tammar and Woylie.

Many of the students have lived in and around Manjimup all their lives but until recently had never seen these rare

The field excursions have also enabled the students to see forest operations first-hand and to gain a better knowledge of how and why local forests

Teachers and students from both Kearnan College and Manjimup Senior High School have responded enthusiastically to the newly-discovered tutorial talents of CALM Research Officers.

RESEARCH BRANCH MAJOR changes have been made to the

structure and organisation of research in

The two previous branches, Production and Protection Wildlife Research and Research, have been merged into one Research Division.

The new division will be led by a corporate team under the direction of a Chief of Research, which replaces the former position of Director of Research and Planning.

The Chief of Research has not been appointed yet.

Research studies have been reorganised on a programme basis that will see one person, called a programme leader, in charge of the research in a certain area.

Programmes and their lead-

Biogeography. McKenzie; Fauna Conservation, Bob Prince; Fire, Gordon Friend: Flora Conservation, Steve Hopper: Jarrah, Ian Abbott; Karri, Lachlan McCaw; Pine, John McGrath; Plant Diseases and Pests, Joanna Tippett; Rehabilitation, John Bartle: Wetlands and Water-

birds, Jim Lane. The duties of the me leaders will be to coordinate and direct research within the programme, prepare the programme budget and allocate finance within the programme, coordinate contact between the programme and regional, service and administrative staff and coordinate research with external scientists and institutions.

There will also be two service programmes: computing, led by Mike Choo; and administration, led by John Dorlandt.

The Department's five research centres will be under the control of Research Centre Managers.

They are: Busselton, Richard Moore; Como, McGrath; Dwellingup, Brian Shearer; Manjimup, Neil Burrows, and Woodvale, Jim

Standards of scientific excel-Ience in research and research

be the responsibility for two Senior Principal Research Officers

These positions are currently held by Dr Andrew Burbidge and Dr Per Christensen.

They will also help the Chief of Research to produce a fiveyear rolling research plan clearly defining departmental priorities for research, showing how these priorities are to be met and providing details of funding for each research programme.

The first plan will be com-

ence will be held for senior staff and programme leaders to present the year's achievements and discuss the following year's programme.

There will also programme meetings throughout the year and workshops at programme sub-programme level.

A feature of the new arrangement will be the involvement of operations staff in programme meetings and decisions about research pri-

Admin Officers discuss duties

THEY'RE the people behind the scenes, the ones responsible for keeping the office running and making sure things get done.

enabling Administrative Offi-

istrative and Clerical Officers, and 36 of them met recently for a three-day seminar on their Departmental duties.

Alex Errington, Divisional Manager Finance and Administration, opened the meeting.

"You are one of the major sources of people who can get things done in this Department," he said.

"Things don't just happen when someone says we have to do it - it comes down to the Administrative Officers and Clerical Officers who must put those words into action.'

The emphasis of the seminar was on finance and industrial matters, with information sessions given by various Departmental officers.

Eric Jenkins, Deputy Regional Manager of the Northern Region, gave an overall view of the role of the Administrative Officer in the Department.

Those duties touch almost all areas, including personnel, systems, finance, library, industrial, public relations,

Eric said. Seminar organiser, Frank Townsend said: "This gathering was absolutely essential in

The seminar was the first one held since 1980, and Frank said he "can see the need to have them every year because things change at such a great rate."

GRAPE DEAL

VIGNERONS of the Swan Valley will bulk order their trellising materials under new arrangements between CALM and the Swan Valley Grape Growers Association.

Northern Forest Regional Manager, George Peet, said the Department will issue the association with a forest produce licence to remove the trellising materials from some areas of the northern jarrah forest.

The Swan Valley Grape Growers Association will take orders for the materials from their members then allocate the availa-

ble timber to them. The new arrangements have streamlined the yearly process of finding poles and posts for the wine growers, George said.

"It's much easier dealing with one group than with many individuals," he said. In the past, each vigneron has harvested the posts and poles needed for trellises from parts of State forest scheduled to be

George said that area is about half what it was last year, and

other parts of the community are competing for the timber. Mr Gavan Troy, MLA for Mundaring, played an integral part in developing the arrangements with the two groups.

He said current tenants of houses identified as surplus will be given the first option to buy, but employees who do

CALM is selling off a

number of surplus

houses in a move to ra-

tionalise its housing

Alex Errington, Divisional

Manager Finance and Admin-

istration, said selling the

houses will reduce the Depart-

ment's costs for maintenance,

insurance and rates.

not want to purchase will not be evicted. So far, 35 houses have been

sold by tender for removal from their sites and it is anticipated more will become available as they are vacated.

Prices received ranged from \$450 to \$7300. These houses were at Gnan-

gara, Grimwade, Hamel, Mar-

garet River, Ludlow, and Mundaring. One vacant house in Nan-

nup has been sold on the open market for \$23,000 and others will be offered for sale as individual titles are created.

In many instances, subdivision and zoning changes are necessary before the houses can be sold.

continuing, Kerry said.

Expedition locates a sea of birds

THE 1986 Remote Wetland Expedition, conducted for CALM by the Royal Australasian Ornithologists Union (RAOU), took place in August 1986; and what an expedition it was - to Lakes Argyle and Gregory in the State's far north, and yielding an estimated half a million waterbirds of 66 species. al Black-breasted Buzzard and

The 183,000 waterfowl (ducks and their allies) is more than 50 percent greater than that for the entire South West. recorded during the 1986 RAOU Great Duck Count.

On Monday, August 18, 12 people, with four 4-wheel drive vehicles and three boats, met at Kununurra for the first part of the survey at Lake Argyle.

They were led by Roger Jaensch, the RAOU's Waterbird Officer.

"Dapper Don" Munro from Woodvale counted birds, looked after the equipment, skippered the CALM runabout and generally provided essential practical skills.

The group spent six days at two different campsites on the north-eastern and eastern sides of the Lake.

A small plane was used on the first day to locate the position of big flocks of birds.

After that, the boats were used to cover as much of the Lake as possible, to estimate numbers of the various species.

Patrols on foot were also conducted around the Lake's edge to count waders and other shorebirds

Although only about 40 percent of the wetland area was actually covered, almost 145,000 birds, representing 59 species, were counted.

These numbers included 657 Rajah Shelduck and 296 Comb-crested Jacanas, both gazetted as "rare or otherwise in need of special protection", and 51,000 Hardhead ducks more than three times greater than the previous maximum reported for this species anywhere in WA

My own part in the expedition started at Lake Gregory when I joined Roger and Don and their team of volunteers.

After a free trip for two to Broome (courtesy of a Princess Margaret Children's Hospital raffle won by my wife!)

I was fortunate to get a lift from Broome to Lake Gregory (about 1,000 kms) with Bryce Wells, a bird enthusiast who lives in Broome.

To while away the time spent travelling we counted birds of prey along tha road as part of the Bird of Prey Watch, another programme coordinated by the RAOU.

Black Kites, scores of Kestrels, Brown Falcons and Whistling Black Falcon - the Kimberley is a great place for birds of

Lake Gregory is a large lake about 250kms south of Halls Creek on the edge of the Great Sandy Desert. Usually saline, and about 250 square kms in size, it received flood-flows from Sturt Creek in 1983, which at least doubled the lake's surface area and inundated large tracts of desert and

Although receding now, it is still larger than its "usual size", and its water is still vir-



Most of the small trees inundated in 1983 are now dead, and stand starkly around the margins and shallows of the

However, much of this vegetation would have provided excellent breeding conditions for water birds when first

Even now, species such as Cormorants and Darters are breeding profusely in the flooded, dead trees.

The sheer number of birds was awe-inspiring.

Rafts of more than 10,000 Eurasion Coots, and similar numbers of pink-eared Ducks and Hardheads were common on the water, while many thousands of Little Black Cormorants flapped and circled above any disturbing boat.

Numbers of this sort made counting extremely difficult, but comparison between up to five different observers indicated that estimates were probably within 10 to 20 percent of the correct figure.

The total estimate, over five days, covering about 80 percent of the Lake and using the same methods, as at Lake Argyle, excluding the use of the aircraft, was about 240,000 birds in 57 species.

This figure included about 75,000 Eurasion Coots and its management of wetlands 60,000 little Black Cor-

Perhaps the most exciting record was the count of nearly 900 Freckled Duck, a species on the gazetted rare list, and not usually associated with northern parts of Australia.

One needed only to walk out of the dead timber and across the first sand dune to be, apparently, in the middle of the Great Sandy Desert.

The contrast between the vast, productive lake, with its profusion of birds and other life, and the forbidding Triodia clad plains and sand dunes was a reminder of the whole essence of much of arid Australia - times of plenty interspersed with long periods of

From the point of view of water birds, the results of the first Remote Wetland Expedition have two important impli-

First, Lake Argyle, with its huge body of clear, permanent water, has clearly become one of Australia's most important refuges and breeding grounds for many species of water

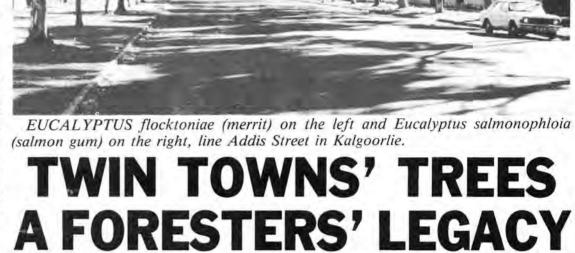
Secondly, the great productivity of Lake Gregory suggests that it, and other remote wetlands, many of which may only fill occasionally, may be very important in allowing occasional massive expansion of the populations of many

These local "population explosion", may then, as the remote wetlands recede and dry up, and birds are forced to leave, provide large pulses of birds to other parts of Australia.

Thus, isolated, little studied wetlands of the north and centre birds, in national terms, previously little recognised.

The Remote Wetland Expeditions are part of a three-year programme of studies currently being conducted by the RAOU for CALM, and including several other aspects of water bird distribution.

The involvement of large numbers of volunteers that the RAOU can mobilise, and their expertise in this sort of work. promises to yield other exciting results which will be invaluable to this Department in



By IAN KEALLEY

RECENT research of the Kalgoorlie office archives have produced information on tree planting in Kalgoorlie and Boulder.

The information indicated the unique nature and history of the street trees in the twin mining towns.

The trees, which seem to be most noticed when they are pruned or removed, are often taken for granted

But these trees are unique for several reasons, including:

* The number of species planted. The 50 species include 43 species of eucalypts and seven other species. Of the eucalypts, 23 are Goldfields species, 15 are other WA species mainly from the adjacent Wheatbelt, and five are Eastern States species.

* The trees are all adapted to the dry climate, which means lower maintenance and establishment costs and trees that fit into our the surrounding landscape.

Very few towns, and even fewer with a history such as Kalgoorlie's, have such well planned, selected and managed amenity plantings

The nature and uniqueness of the street trees was no accident, but a legacy of hard work and foresight by local foresters and gardeners

Old records show that early in Kalgoorlie's history, efforts were made to plant trees.

An article in the "Kalgoorlie Miner", on July 23, 1898 said that 900 trees had been planted that year mainly kurrajong, tamarisk, pepper trees, Moreton Bay figs and sugar gums.

In the 1930s and 1940s, Forest Department records show tree species available or suitable for local conditions were limited.

Plantings were mainly sugar gums, pepper trees, kurrajong, jacaranda and some eucalypts.

Local foresters were frustrated in their efforts to plant more suitable species

In 1945, the Officer in Charge of the Department at Kalgoorlie, George Brockway, proposed growing seeds of local eucalypts for dry area use, and an experimental nursery was established, which grew quickly to satisfy local and outside orders.

It was this nursery, subsequently managed by Phil Barrett, Bob Donovan and Bill Brennan, that led to the production and planting of suitable local trees throughout

the streets of Kalgoorlie and Boulder

In 1949, the nursery grew 63 species, including 38 local eucalypts and two Eastern State's eucalypts; in 1951, 14,500 plants of 43 eucalypt species and 11 others were produced; in 1953, 18,000 trees of 43 species were produced.

The nursery was closed in 1954 and transferred to Dryandra near Narrogin.

Most of the street trees were planted from 1947 to 1970, firstly by the local foresters and then by Jim Wallace, Kalgoorlie Town Council's head

The foresight and hard work of these men have given the residents of Kalgoorlie and Boulder a beautiful town.

Today's residents have much to thank George Brockway for, for starting the nursery, and Jim Wallace and other foresters for continuing the planting.

Street tree planting continues today, using the early experience and keeping to local species that are well adapted and maintain the character

approach CALM's new Planning Officer Vanessa Smith (who just made it in before the freeze on new appointments) working in the team

Vanessa

Formerly the Environmental Officer with the City of Melville, Vanessa is responsible for everything environmental.

atmosphere at Murdoch

"At Melville, I was it," she said.

"I'm really looking forward to being part of the team here.

"It's good training to do it all on your own, but it's a good feeling now to have people I can relate to and learn from."

Vanessa, who will prepare the draft management plan for Yanchep National Park. Vanessa has been doing background work and is wellprepared to start the

She said: "This way I am able to take my time meeting people here and I'm getting lots of ideas and information.

'I'm coming from a totally different system of doing management plans in terms of the process, the setup, how to get information."

Vanessa has a Bachelor of Science Degree in Biology and Environmental Science from Murdoch University.



Vanessa Smith

urning update A TWO-DAY refresher course in aerial prescribed burning reinforced the

skills of CALM navigators and incendiary machine operators recently. The second day was practi-

The course, a follow up to the Department's first formal training course in aerial prescribed burning last year, was held at Dwellingup for the Northern and Central regions and at Manjimup for the Southern and Central regions.

The first day of the course was theory, with participants reviewing aircraft and incendiary equipment, air navigation regulations, use of the navigation computer, preparing aerpre-planning operations, communications and administration requirements

cal, with the participants running through the whole aerial burning operation

Divided into air crews, each did a number of flight lines and learned beacon operation and the use of verey pistols.

Dwellingup participants was a

course was the practical work.

An extra benefit for the

flight in a helicopter to expose them to the use of the craft in aerial burning.

Participants' comments on organiser Gerard van Didden that the strongest part of the

"The hands-on experience this year was excellent and next year I'll try to include a practical exercise with every lecture," Gerard said. Participants at Dwellingup

were Michael Jubb, Gary Hunton, Mark Giblett, Brian Cornell, Leon Price, Steve Campbell, lan Fitzgerald, Jim Sharp (Bush Fires Board), and Alan Daw (Bush Fires Board). Participants at Manjimup

were Brian Moss, Steve Dutton, Kylie Kau, Tim Mitchell, David King, Alan Brown, Brian Taylor and Michael

BUSY WEEK FOR Enforcing the Wildlife Conservation The week included a visit to the

Act and Regulations and "policing" the plants and animals in his district are a large part of the CALM Wildlife Officer's

So for the 30 Wildlife Officers attending their annual gathering at Como recently, the two days spent at the Police Academy Training Centre were especially valuable in learning law enforcement techniques from police trainers.

Metropolitan Wildlife Officer Matt Warnock said of the week-long seminar: "It's the one time of the year when you get to see all the wildlife officers in one place, to exchange ideas and get a current view of the situation throughout the

The Wildlife Officers also attended a one-day seminar with Professor Joseph Geraci, a Canadian expert on cetaceans.

Wildlife Research Centre at Woodvale and even sessions on photography and dealing with the media. The extensive programme included

talks by experts in the field of wildlife: reptile identification by Laurie Smith; the life cycle, habits and characteristics of the crocodile by Andrew Burbidge; how to identify bird species by Roger Jaench; bird banding schemes and indentifying migratory waders by Doug Watkins; flora identification by Steve Hopper; use of the WA Herbarium by Neville Marchant; and the effects of dieback on flora by Greg Keighery.

A memorable session was one given by Herpetologist Gayne Doyle, who spoke on the handling and keeping of snakes, and used live tiger snakes, dugites and



DR NEVILLE MARCHANT, botanist with the Department of Agriculture, (left) shows Wildlife Officers Laurie Anderson (centre) and Rob Coughran his method of using a phone book to preserve wildflowers.