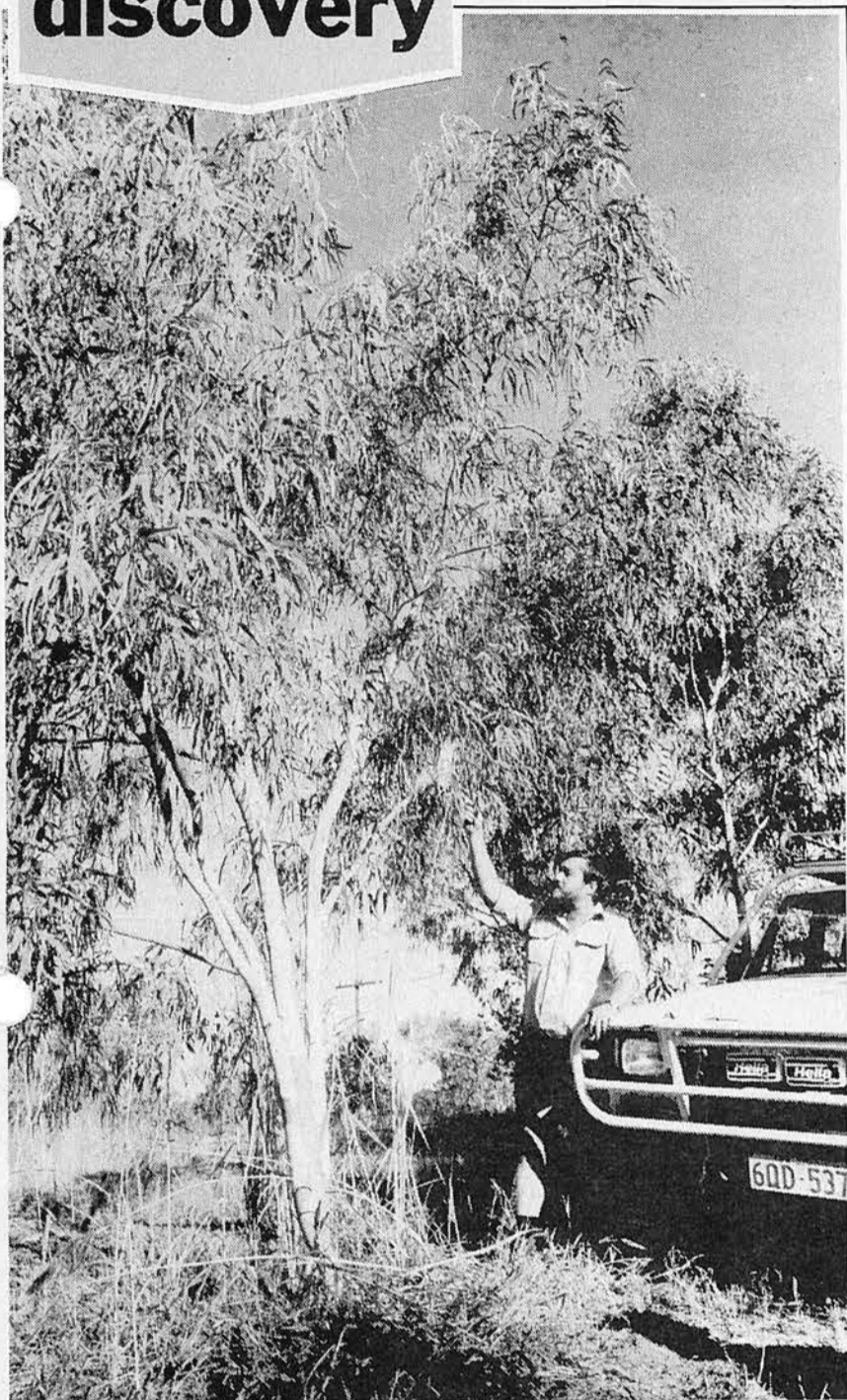




Eucalypt discovery

Pine Planting Schemes Under Review



• Forester David Rose looks at a Halls Creek gum tree at the arboretum. (Photo: courtesy WA Newspapers Ltd)

Kimberley species catalogued

CALM officers in the North West have discovered several new eucalypts while cataloguing the Kimberley's flora.

They are also developing an arboretum for visitors and residents to look at various Kimberley and other exotic species.

About five hectares of the arboretum has been developed, and more than 70 species are represented.

The Department's acting regional manager, Chris Done, said that the arboretum was set up as an educational nursery.

"We wanted to show as many types of trees as we could to townspeople and tourists," he said.

"But we're learning at

the same time about how to grow them."

Chris said that at least three eucalypt species in the arboretum had not yet been named.

He believed that a eucalypt from the northern Kimberleys not yet in the arboretum had not previously been seen.

Chris said that the tree was distinctive, and he believed that it had good potential as a garden shrub or small tree.

Many of the new eucalypts were discovered on seed-gathering and cataloguing expeditions.

THE DEPARTMENT of Conservation and Land Management is currently considering a number of schemes to encourage the further planting of pines on private land in the Manjimup region.

Two of the schemes are joint private landowner and State Government forestry ventures, and private forestry and agroforestry ventures.

The joint ventures will guarantee each landowner an annual income and a share of the profits when the crop is harvested.

The economic returns are far more attractive than returns currently earned by many South West farmers involved in livestock activities.

Pine planting will also give land owners the opportunity to use funds currently invested in livestock elsewhere.

As an added incentive the management of the pines will be carried out by CALM and employment opportunities will be provided for the land owner to work on the plantation.

The scheme also has important conservation, social and economic implications for the Manjimup region.

In particular, pines can help preserve the State's valuable hardwood forests.

While hardwood takes up to 200 years to mature, radiata pine is a fast growing, short rotation crop that can be used for many domestic timber requirements.

In many instances pine is recognised as being a more durable general-purpose timber than local hardwoods.

The social benefits of the schemes include employment opportunities for skilled and unskilled workers and for part-time and seasonal workers.

In particular the schemes are expected to arrest the decline in Manjimup's workforce. Some hardwood timber mills will close with the planned reductions in cutting to sustainable levels.

The schemes are also expected to play a valuable role as part of a soil conservation strategy designed to reduce soil erosion, lower water tables and assist with salinity control.

Survival plan for Noisy Scrub Bird

THE FIRST step in a two-pronged management programme designed to ensure the continued survival of W.A.'s Noisy Scrub-bird will take place this winter.

Between June 17 and August 10 volunteers will assemble at Two Peoples Bay in an attempt to trap and relocate at least 10 pairs.

The translocation programme is being organized by Graeme Folley, the Reserves Officer at Two Peoples Bay.

The other major initiative

will be the introduction of effective habitat management — a longer term project according to Graeme.

In the meantime, Graeme is interested in hearing from people willing to help in the translocation programme.

"Experience is not essential and there are no barriers on age or sex," he said.

CALM will pay the travelling expenses of volunteers and accommodation will be provided at Two Peoples Bay.

Few people are expected to be able to attend for the full eight-week programme, but any period of a week or more will go towards filling a roster.

Graeme promises a holiday with a difference amid some of the south coast's most spectacular scenery.

The total world population of the Noisy Scrub-bird is presently about 300 birds, and apart from a small group at Mount Many Peaks the rest are contained within the Two Peoples Bay Nature Reserve.

In this situation the birds are vulnerable to extensive fire or disease, both of which could drastically reduce or wipe out the population.

The extinction of the Noisy Scrub-bird would be

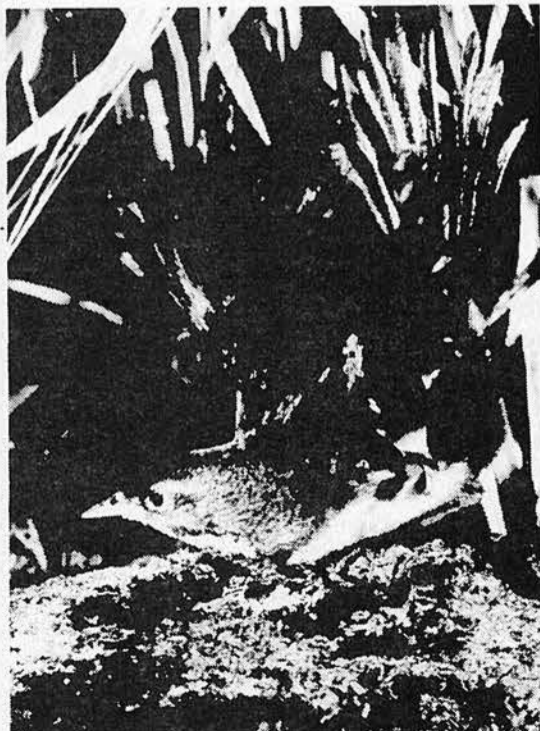
particularly unfortunate because of the great scientific importance of the species and its special place in the history of nature conservation in WA.

When the Noisy Scrub-bird was rediscovered in 1961 the population was small — about 40 to 45 singing males.

Nothing was known about its biology or habitat requirements, and no techniques were available for artificially enlarging or extending the population.

Since then detailed research programmes have been carried out on the bird by the Commonwealth Scientific and Industrial Research Organization's Division of Wildlife Research (now Division of Wildlife and Rangelands Research) including an experiment on captive breeding.

Further, the Department of Fisheries and Wildlife, which was responsible for wildlife conservation in Western Australia and which managed the Two Peoples Bay Nature Reserve, instituted a management plan for the Reserve and has developed the necessary expertise to establish Scrub-bird populations at new locations.



• The noisy scrub bird (photo: courtesy A.G. Wells).

Rare flora manual

THE DEPARTMENT of Conservation and Land Management has produced a manual on the protection of rare flora in the Central Forest Region.

It was prepared by a Forest Officer at Bunbury, Graham McCutcheon, and supplements work done by Research Officer Steven Hopper.

The manual features gazetted rare species and includes species which are merely uncommon locally, or which are common locally but widely separated from the main distribution in the State.

Each species in the binder is featured on a sheet (in a plastic cover) which shows a coloured photograph, a brief description of the plant and a comment on the site type which it inhabits.

For most species there is a close picture and one which includes something of the surrounding vegetation.

Also shown is the known distribution by botanical districts and by forest blocks.

Each land management district has a copy containing species known or thought likely to occur in that district.

The intention is that field personnel should have the opportunity to become familiar with rare species in their area, and it is hoped that they will be inspired to notice and report both other occurrences of listed species, and other uncommon species which may be then included in the manual.

Actual locations are recorded on a set of maps in the Regional Office and on hardwood and softwood operational control plans in District Offices.



One of the most important conservation and management issues in the new Department is fire.

In many discussions with regional and operations staff, with research officers and planners and specialists over the last few months, I have found that the question of 'the right' approach to fire always crops up as the second greatest concern stemming from the amalgamation.

(Industrial anomalies are the first.)

There is debate about using fire for fuel reduction, and about not using it; about fire suppression methods; about the adequacy, focus and meaning of research; about the priority, format and content of fire management plans; about the relative importance of conservation interests and neighbour's interests; about the competing fire management needs of compatible land uses; about fire pre-history, fire prevention and fire legislation.

I believe that the breadth of views on these issues, and the intensity of interest, reflects three main things:

Firstly: The wide variety of ecosystems for which we are responsible. Clearly, it is not sensible to expect to apply a fire management system developed for the jarrah forest to southcoast heathlands, goldfields woodlands, spinifex plains or metropolitan parks.

Secondly: The state of the art. There is still a tremendous amount of research to be done in this whole area, ranging from traditional scientific studies into fire behaviour and fire effects, to the development of improved detection and suppression techniques and to sociological research into problems such as community attitudes and fire prevention.

Finally: The interest in this subject reflects the very high degree of environmental awareness and of social responsibility to be found in all levels of Departmental personnel. This is very satisfying, because it highlights the nub of the Departmental challenge. This is, to develop and implement appropriate fire management systems for all Departmental land. By this I mean systems which will truly take account of biological and conservation values as well as satisfying legal requirements and community expectations for protection from wildfire.

The new Department has brought together scientists, managers and administrators, with a great deal of accumulated wisdom, learning and experience.

Their challenge is to open effective lines of communication, to identify priorities for research, and to ensure active and constructive collaboration on fire management plans.

Professional rivalries and the territorial imperatives of the past can have no place in this scene.

I must say that I am delighted at the friendly and professional approaches which are already emerging.

Indeed, I regard the fire management challenge as potentially a great cementing agent for staff in the new Department, rather than the reverse, as some commentators have suggested. I hope you share, or will come to share, my view.

ROGER UNDERWOOD
General Manager

Syd Shea was at a Concom meeting at Norfolk Island when this edition was printed.

NANNUP GOLF DAY

NANNUP's annual golf day is on again.

The Departmental tournament and family day will be held on September 14 and arrangements are underway.

In previous years the competition has included nine holes for novices, nine holes for ladies, an 18 hole men's stableford, and other family entertainment.

Refreshments are served and it is usually a great day for all involved.

Registration forms and further details will be published as soon as the details are finalized.

FULL STEAM AHEAD

THE STATE'S last steam-driven timber mill, at Donnelly River in the South-West is to be turned into a museum.

A \$30,000 grant has been made by the WA Tourist Commission.

A Perth company, has taken a 50-year lease on the Donnelly River township and is developing a holiday village with the old steam mill as a focal point.

The mill was built in the late 1840s and operated for more than 30 years.

It is planned to restore the mill so that it appears as if the knock-off whistle has just sounded.

The Department of Conservation and Land Management is responsible for the development of walk trails in the surrounding State Forest.

CALM News is the Department of Conservation and Land Management's new monthly staff newspaper. We hope you will become involved in its publication by sending articles (up to 400 words), letters, photographs (with captions), minutes from meetings and items of interest to: Address to Ian Kay, Editor, CALM News, Department of Conservation and Land Management, Como WA 6152 — or phone HQ OHQ ext 328.

Managing Bengier Swamp

MANAGEMENT responsibility for Bengier Swamp near Harvey has been taken over by CALM.

One advantage for the Department is the familiarity of the region by the acting District Manager at Harvey, John Clarke.

Management of the 700ha coastal wetland is as complicated as any forest area John has dealt with, but he does have an excellent teacher to bring him up-to-date with the area's problems.

Consultant biologist Doug Watkins has been employed under a Department of Fisheries and Wildlife contract for the past three years and has made a detailed study of the area.

The long-term aim is to manage the area effectively as a habitat for water fowl.

Principal concern of the Department has been the continued survival of the rare Freckled Duck.

Some areas of the swamp are still privately owned and much of Doug's work has involved liaison with local land users.

Doug explained that in the early 1900s the whole area was sold in small blocks to neighbouring farmers.

In the summer the farmers drained the swamp and used the fertile soil to grow potatoes and other vegetables.

Important water fowl habitat

The privately owned areas are still used in this way and for growing forage crops for cattle.

With the vagaries of weather however the growing of valuable root crops has become less popular and since 1950 the Government has slowly bought back most of the swamp.

With the departure of the farmers and their regular cultivation has come new problems and the invasion of the swamp by the introduced bulrush *Typha orientalis*.

Locally known as yangets, the deep-rooted close grown bulrush is taking over most of the swampland to the exclusion of wet and more open areas required by the birds for feeding and breeding.

Although frequently fired the only permanent damage to the swamp vegetation is the destruction of paper-barks which provide shelter for some fifty species of water birds.



● Doug Watkins (L) talks to John Clarke while one of the local farmers harvests a forage crop.

One particular species of paper bark is also sought after by fishermen for the making of craypots, and the resulting clearings by both fire and illegal cutting are quickly colonized by the new rushes.

On Doug's suggestion a trial is being conducted using Round-up spray.

The reeds are burnt first and the new green shoots are then sprayed.

Once a satisfactory programme has been found the Department's work will involve the control of the bulrushes without fire and land management to en-

courage the return of paper-barks and other native swamp vegetation.

"It is a long-term project but eventually the swamp and its bird life will return to its natural state," said Doug.

Footnote: One of the particular hazards of working in the area is the number of small wells left by the early farmers.

The wooden lined pits accumulate families of Tiger Snakes.

'Tree Person' appointed at Esperance

ESPERANCE has just had a 'tree person' appointed under a Community Employment Programme sponsored by Greening Australia.

Only the second rural tree person and the third to be employed in the State, Vicky Allen started work at the beginning of May.

Vicky is based with Department's district officer Klaus Tidemann in Esperance and they recently paid a flying visit to Perth with Helms Arboretum manager Tony Byrne.

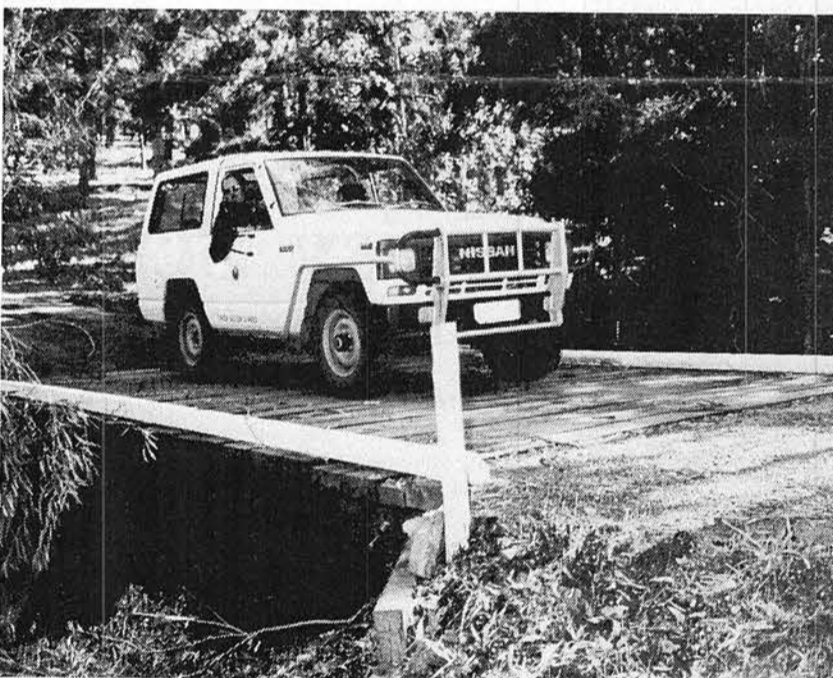
The visit was part of a four-day study tour of South West nurseries and seed stores aimed at improving liaison and gaining background information.

One of Vicky's first jobs in Esperance is to organize the distribution of 18,000 seedlings allocated to the area under Alcoa's Greening Australia scheme.

Besides following up the Alcoa scheme her job involves promoting tree planting by helping people use the right techniques and species for their area.

The job involves much travelling as the area covered extends to Dundas and Ravensthorpe shire councils.

Vicky will also have some practical work, planting trees on roadside verges and parks.



● Peter Keppel makes a crossing on one of the new army bridges.

Harvey Forest Army Exercise

THE 13th Field Squadron of Royal Australian Engineers held an exercise in the Harvey Forest in March.

Their work included the construction of four wooden road bridges, a concrete culvert, and two foot bridges designed to assist future tourist development in the Upper Harvey Valley.

District Forester Peter Keppel is enthusiastic about the new constructions.

"The bridges are built to a particularly high standard and are a real asset to the area," he said.

Next year there is a possibility that the engineers will construct a suspension bridge across the Harvey Weir overflow gorge.

This bridge will give all year access on the Bibbulmun Walk Track which is

often closed in late winter by run-off from the weir.

Peter expects the bridge and the view it will afford to become a tourist attraction.

"Harvey forest has long been a favourite haunt for defence exercises," said Peter.

"Various groups from the army regularly do survival courses in the forest and the engineers have in the past constructed Bailey Bridges.

"The new work is permanent, however, and the men find it much more rewarding.

"Of course the biggest advantage for the Department is that the only costs involved are for materials.

"It is the army's way of saying, thanks."



● ESPERANCE 'tree person' Vicky Allen is wasting no time in getting to know her subject.

Eucalypt stands the test of time

A SURVEY of a recently re-opened mine on Kalgoorlie's Golden Mile has revealed the durability of Eucalypt timber.

Goldfields region staff Ian Keally and Norm Caporn inspected the Paringa mine's old timbering and recent re-timbering with salmon gum and marri logs.

Timber lines the mine's main shaft and is used in drives and stopes. Over many years of mining operations timbering methods have changed a little. Originally timber was used in stopes to brace the walls. Rock pillars now do this job, and timber is used in drives to support broken ore before it is loaded into trucks. With the temperature underground a constant 18 degrees celcius and a relative humidity of 82 per cent, logs and lagging used green are slow to dry. Generally conditions are dry with little or no water at upper levels.

Economic, social benefits in safety

THE DEPARTMENT is to adopt a tried and proven safety programme.

The general philosophy that staff, like parks, forests and reserves, must be conserved is being promoted.

At a series of safety schools held in Busselton in May, groups of personnel from throughout CALM were brought together and introduced to the policy.

More than 80 people were involved in the five schools conducted at Geopraphe Bay Motel and the venue provided an ideal setting for groups from the old agencies to mix.

Department Safety Officer Arthur Kesners produced some startling figures from records kept since 1966.

According to Arthur a sustained safety programme was introduced in the Forests Department for humanitarian reasons.

"A high number of industrial accidents were badly affecting the lives of injured people, particularly when there were long-term absentees from work," he said.

"Apart from alleviating physical suffering and inconvenience, it was hoped that a safety programme would provide personal and social benefits to staff — little or no thought was given to the possible economic advantages.

"Now, after 19 years experience, we know that the humane and the economic elements in a safety programme are inseparable.

"It has become clear that substandard and unsafe working conditions are uneconomic, and that improvement in working conditions and safety standards will also improve the efficiency of workers and raise their morale."

While it is impossible to measure the value of the intangible humanitarian benefits of a safety programme, the Department has quantified some of the monetary benefits.

Two examples quoted by Arthur clearly show direct savings in the cost of days lost and insurance cover

The Paringa 1100ft level was underwater until recently and timbers were replaced in some parts of the shaft and drives.

However, 'spongy' wood decay was restricted to the surface 10mm on salmon gum logs.

The remainder was solid. Timber in the drives and shaft showed little evidence of decay despite its length of service.

The main shaft was sunk more than 80 years ago and except for the submerged timbers, little has been replaced.

Some of the salmon gum logs were installed 60 years ago; none show signs of decay.

Lagging in use for between 20 and 50 years, some with bark still attached, had no degrade.

Old miners told Ian and Norm that the old timbers were so hard they blunted chainsaws and burned drill bits, while metal bolts, bullock horns and metal plates have rusted away.

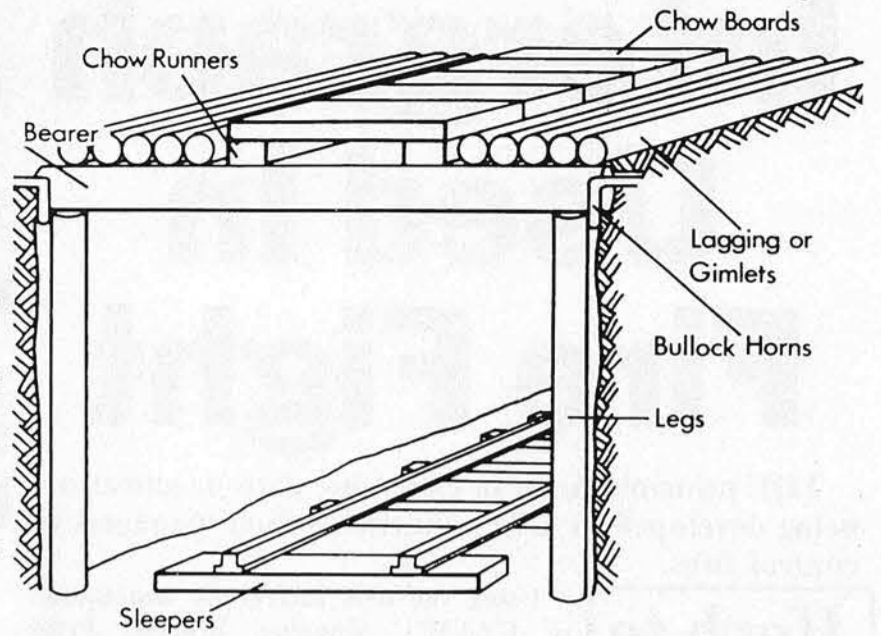
While the mine was closed, whiteants had destroyed the karri skids in the shaft up to 100ft from the surface.

Wall plates were damaged for the first 10ft, and the old surface headframe needed replacing.

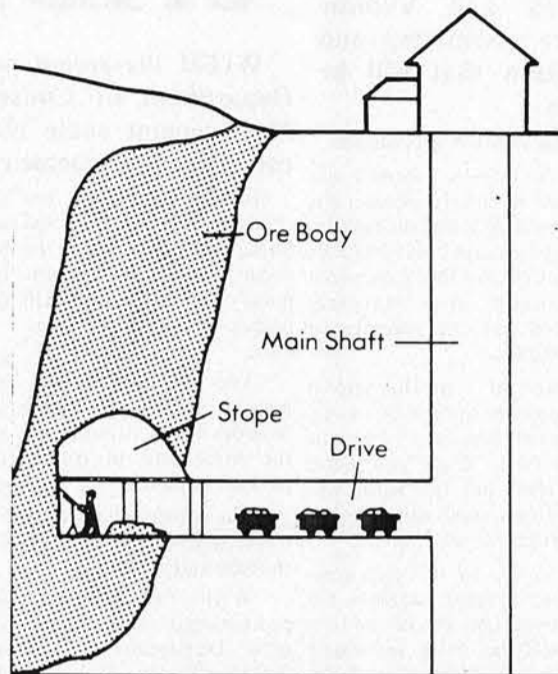
No insects or whiteants were found deeper in the mine.

Logs and lagging wet by drilling water developed a superficial white fungi on the surface but there was no decay evident.

Marri timber installed will be closely monitored.



• The use of wood in the mines drive with the miner's terminology clearly shown.



• Cross section of the mine shaft and drive.

Kimberley attracts tourists

TOURISM in the Kimberley is increasing rapidly, and in many areas is outstripping the planning necessary to cater for the visitors attracted by unique landforms, flora and fauna.

Some of the area's attractions such as Wolf Creek Meteorite Crater, Tunnel Creek, Geikie Gorge, Windjana Gorge and Hidden Valley are already National Parks and have had a limited management presence for some years. The Department of Conservation and Land management will be active in formalizing plans and upgrading facilities at all of these popular areas.

Almost as well known, but at this stage much less accessible, are the Drysdale River National Park, The Prince Regent River Conservation Reserve, the Mitchell Plateau area and, of course, Bungle Bungle.

These areas, by virtue of their isolation, remain relatively unspoilt.

However, publicity both passive and active will increase pressure from well-intentioned visitors, and detailed planning is required so that rapid deterioration of sensitive sites does not occur.

A third group of attractions is located on land not directly under CALM control, but which is usually leased for pastoral purposes.

Many of these attractions are extremely popular and pastoralists in some cases are trying to capitalize on visitor interest by providing a range of services such as fuel and store sales, and camping facilities.

Some of the pastoralists have sought Departmental advice for their projects.

Other tasks carried out by the Department include the management of the Broome nursery (an establishment which provides hardy native and exotic trees and shrubs for Kimberley and Pilbara residents), National Park Management (which involves dealing with thousands of visitors at Geike, Tunnel Creek and Windjana), wildlife conservation and enforcement, forestry extension and trial plots.

These last activities have application throughout the 422,803 sq km region and involve three of the officers in considerable away from home work, especially in the dry season.

Diversity Highlights Wheatbelt

THE DEPARTMENT of Conservation and Land Management's Wheatbelt Region contains many interesting and attractive areas of bushland and a highly diverse vegetation, including woodlands, mallee and kwongan scrub associations.

Woodlands commonly occur along drainage lines and lower slopes, while the upper parts of the landscape, particularly to the east, are mainly covered by kwongan and mallee.

Many endemic plants and a variety of endangered fauna occur in the wheatbelt.

While much of the region has been cleared for agriculture, vacant Crown Land, pastoral leases, and Nature Reserves predominate along the northern and eastern fringes.

Scattered throughout the agricultural area are numerous Nature Reserves, together with some timber reserves and small National Parks.

An important area of State Forest, Dryandra, is situated in the central western wheatbelt, near the town of Narrogin.

The Wheatbelt is the largest Region of the Department south of, and within, a line connecting Geraldton, Kalgoorlie and Esperance.

Agriculture is the major regional industry with cereal and wool production providing the most important sources of income.

To a lesser extent meat production, mining, tourism, and small manufacturing and commercial ventures contribute to the economy.

Departmental land within the Region totals more than one million hectares, most of which has been set aside as Nature Reserves and is managed for wildlife conservation.

Timber production is largely restricted to a small section of the Dryandra Forest where brown mallet is logged to provide tool handles, fence posts, and firewood for both domestic and commercial use.

Contractors licensed to pull Sandalwood also operate on pastoral country within the north-eastern part of the Region.

These people are supervised from Kalgoorlie.

With the increased interest in tree planting over recent years, the Department's plant nursery at Narrogin is now an important source of young trees for farm and, to a lesser extent, ornamental plantings.

The most outstanding physical features of the Wheatbelt's landscape are the laterite breakaways, large granite exposures which reflect the ancient, underlying rocks, and extensive, saline lake systems.

NEWS FROM THE REGIONS

As there are few National Parks within the Region, Nature Reserves and State Forest are an important recreational resource for local communities and visitors.

Wetlands and the large, granite outcrops have, in particular, received a great deal of attention.

Favoured pursuits are water ski-ing and duck shooting, while the granite outcrops are popular picnic spots.

Many other areas are used for passive recreation, and the settlement within the Dryandra Forest receives more than 1900 overnight visitors annually.

Letter:

Praise for staff

YOU'VE got some good officers. I had reason to travel to the Northwest region.

In the context of my journey I called on your office in Karratha.

The assistance I received by your regional manager, Dr Tony Start, was exemplary.

Eventually, I called in at Anna Plains and the Eighty Mile Beach and later on at Roebuck Bay, near Broome.

There I met another two officers of your Department.

They proved to be very knowledgeable, helpful and genuinely concerned about

It is inevitable that recreational demands in the Region will increase.

Department land is also used as a seed source for plant and nursery stocks, as a resource for apiarists, and for mining.

While most mining requests involve gravel or sand, the use of gypsum is increasing.

Licensed pickers for the cut-flower trade work within the Region but none are permitted onto Departmental land.

The Wheatbelt Region has been divided into three districts — Merredin, Narrogin and Katanning.

With the exception of District Wildlife Officer Phil Roberts (Wongan Hills), all staff are based at either Katanning or Narrogin at this stage.

Eleven salaried and 14 wages staff are based within the Region.

The Acting Regional Manager, Ken Wallace, joined the Department of Fisheries and Wildlife in 1978 as the Reserve Management Officer (District Manager) for the Pingelly District.

Following Ken's transfer to the Katanning District in 1983, Ken Atkins joined the Department as Pingelly District Manager.

At present Ken Atkins is the Acting District Manager for the Narrogin District.

Other senior regional staff include District Forester John Humphreys (Advisory Services) and Forester Steve Gorton (Second-in Charge, Narrogin District).

our environment.

But those attributes were also applied to myself when I bogged my vehicle near Broome.

The officers concerned were Keith Morris and Kevin Marshal, stationed in Karratha, to whom I wish to express my appreciation once more.

If your administration in Perth will be as good as your workers in the field, I like to think that the new megadepartment will give the concerned public not too many headaches on the conservation level.

Otto Mueller, Wembley Downs.

Intergraph Used In Fire Fight

THE principles used in electronic parlour games are being developed to help tomorrow's land managers to control fires.

Herb to retire in July

BUSSELTON District is gearing up for the retirement of another senior forester, with a nine-hole golf tournament and social planned as a send-off.

Forester Herb Deadman has worked for more than 20 years in Manjimup and Margaret River.

Now based at Margaret River, Herb's main areas of work have been with the hardwood timber industry and in forest protection, though he did spend some time working with Forest Cadets at Manjimup.

District Manager Cameron Schuster has issued a Departmental invitation for friends and work mates to come and farewell Herb and his wife Joan at the Margaret River Golf Club on Saturday, July 13.

The nine hole competition will start at 1pm, and will be followed by a smorgasbord meal and supper at 6.15pm.

Drinks, food, a presentation and entertainment will be provided in the ticket price (meal and golf \$14 each; meal only \$11 each) but all golfing gear is the responsibility of the players.

Reservations should be referred to Wendy Rose (Margaret River — (097) 57 2322 by Friday, July 5.)

SAFETY BENEFITS

From Page 3

amounting to more than \$771,631 a year.

This saving covers the wages of 51 grade three workers.

It is generally accepted that indirect accident costs represent at least four times the direct costs, so it can be conservatively said that during the year 1983/84 the Forests Department employed more than 200 workers paid for by the savings of an effective safety programme.

"It can be seen from these figures that while Departmental safety policy is firstly based on the concern for the individual we now know that many economical advantages, both direct and indirect, will follow," Arthur said.

Using the new Intergraph installation in CALM's Mapping Branch, Peter Bowen, Mike Wright (Mapping), Neil Burrows, Bruce Ward and Yvonne Woods (Manjimup) are assembling and recording the information that will be used to build fire models.

At the moment the exercise is in its infancy. AQUARIUS programme.

An infra-red scanner was used to closely monitor the growth of simultaneously ignited ground fires within the McCorkhill Block, between Nannup and Margaret River, in the summer of 1982-83.

Initial mathematical studies of the growth of sectors of these fires were made by Neil, Bruce and Peter Walsh, but the work was tedious and the results difficult to interpret.

Later, by utilizing computer graphic facilities, the growth patterns of the fires could be more accurately measured and overlaid with other digitized topographic data to provide the initial input for the first models.

The next stage of analysing this data will soon begin, and there is much more work to be done before the electronic fire is an every day occurrence.

Marine borers test local wood

A joint CSIRO-CALM team has carried out an offshore timber assessment at the BP Kwinana refinery wharf.

The team was led by John Barnacle of the CSIRO Division of Chemical and Wood Technology and included CALM's Phil Shedley, Des Donnelly and

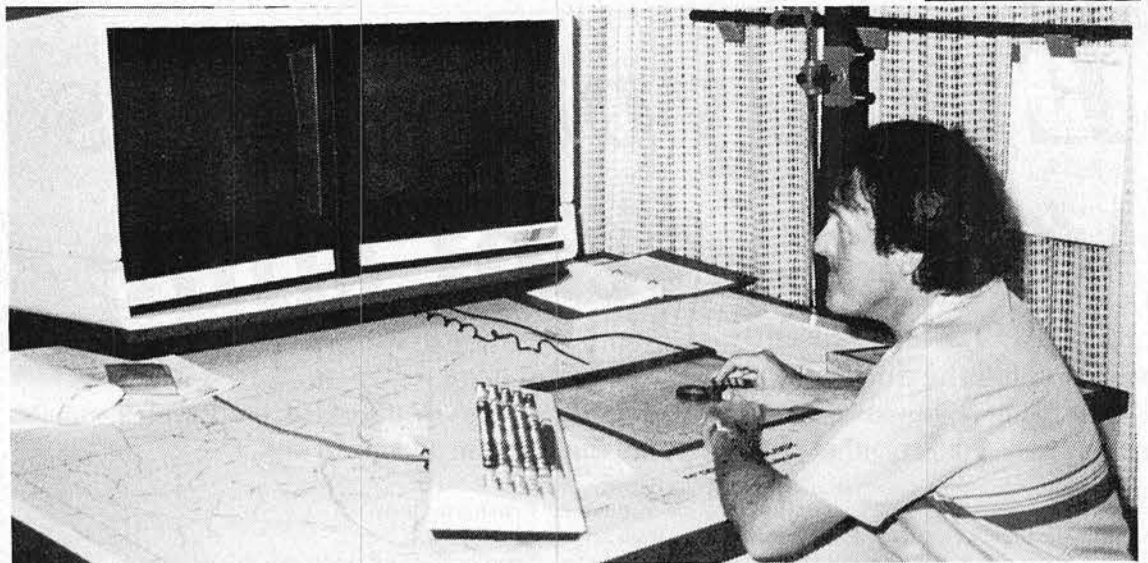
Graeme Siemon.

The trial is just one of many being carried out around Australia in varying conditions.

At Kwinana different timber species, some treated with preservatives, are being tested for their resistance to marine borers.



• John Barnacle chips off marine growth so that the wood samples can be examined.



• Peter Bowen at work with the Department's Intergraph Computer.

CADET TRAINING UPDATE

WITH the recent proclamation of the Department of Conservation and Land Management some changes in the field cadet training scheme can be expected.

However, CALM's Executive Director, Dr Syd Shea, pointed out that the expansion of the Department's responsibilities will lead to expanded opportunities.

"The field of environmental management now includes work throughout the State and in marine parks," he said.

"The course syllabus will be revamped to account for the new duties."

"With the improved promotional system in the new Department, the Certificate in Environmental Management will also become the first step in a comprehensive training programme designed to move our best officers through the ranks to the top."

Before amalgamation there was full discussion

between the component sections of the new Department to agree on the key attributes of the future field officer.

Hardly any differing selection criteria were proposed from those which had previously been applied to forest officer selection, but changing job profiles will require a re-statement of training needs.

Consequent syllabus modifications are sufficiently advanced to be applied to the two cadet groups, first and second year, currently in training.

Until now the minimum educational qualification for new cadets has been Achievement Certificate but because of the increase in the number of students continuing beyond this level, most successful

applicants have completed year 12. Keeness to practise forestry and a suitable temperament for working and living in the bush have been of paramount importance.

Successful applicants were then subjected to a five-day selection process at the Dwellingup Training School, where the candidate's skill and attitude in simple field operations were assessed.

Simultaneously the candidates were shown many aspects of the Department at close hand and could accordingly either confirm or renounce their application before a final selection of 12 cadets was made.

The first year of the cadetship was spent at the South-West Regional College, Bunbury, where cadets attended fulltime lectures to a syllabus drawn up by the Department.

The course was structured and taught by lecturers of the Technical and Further Education division.

One day each week was set aside for field work controlled by Department officers so that the cadet's connection with practical operations was maintained. The main theoretical subjects were forestry, calculations, English expression, plant propagation, mapping, first-aid, forestry equipment and maintenance, forestry science, botany and environmental science.

The second year of the course was spent mainly at the Department's Training School at Dwellingup, and assisted by various specialists in environmental management.

During the second year cadets obtained a broad knowledge of most facets of the Department's activities.

Eight weeks were spent at Manjimup to acquire experience in the southern forests and a further six weeks were spent in selected pine districts.

The main business of the second year was to teach cadets field operations and procedures, based on the general working plan and derived from current district work surveys.

Cadets were also required to complete assignments and to pass practical tests and written examinations.

Constant emphasis was placed on safe working, and each cadet was given a course in defensive driving under bush conditions.

Second year subjects included silviculture (pine, karri and jarrah), protection, man management, forest engineering, field administration and the utilization of forest products.

On completion of the second year, cadets graduated and were appointed to the field staff.

Thereafter the training programme continued for two years, with a guidance officer system in operation.

The cadets were required to submit regular reports on certain aspects of their work.

In the past a newly qualified cadet worked in a district for a year, and then, depending on the departmental staffing requirements, was seconded for a period to a specialist section, such as working plans or research.

SEMINAR PROGRAMME

THE FIRST in a series of informal lunchtime seminars on current research projects has been held at Como.

Subjects already covered include the use of statistics in forest management; conservation fire management in National Parks and rural tree decline.

According to seminar convener, Joanna Tippett, the lectures have been designed to stimulate discussion and keep people up-to-date.

The seminars have been organized by the research staff at Como, and are open to all Department staff.

The seminars are held on Fridays between 12.30pm and 1.30pm, in the Research Auditorium.

June 7 LUISA DE BRAGANZA —

"ESTABLISHMENT OF SECOND ROTATION PINUS PINASTER;;

June 14 DAVID BENNETT — "FROM RESEARCH TO PRACTISE THROUGH MODELS".

June 21 PER CHRISTENSEN — "THE PERUP."

July 5 STUART HALSE — "PARROT DAMAGE TO APPLE ORCHARDS IN THE SOUTH WEST".

July 19 IAN ABBOTT — "PROGRESS IN INSECT STUDIES IN THE SOUTHERN JARRAH FOREST".

August 2 TOM HILL & JO BARCLAY — "THE PLANT IMPEDANCE RATIO METER: ITS APPLICATION".

August 16 JOANNA TIPPETT — "EFFECT OF SITE ON THE SUSCEPTIBILITY OF JARRAH TO P. CINNAMOMI".