



CALM News

COMO RESOURCE CENTRE
DEPARTMENT OF CONSERVATION
& LAND MANAGEMENT
WESTERN AUSTRALIA

Official newspaper of the Department of Conservation and Land Management Volume 3 Number 23 January 1987



BARRY WILSON and his daughter Carina photograph shells found and Ningaloo.

Exciting Ningaloo discovery

BY BARRY WILSON

"THERE'S nothing new under the sun" is a truism, but it's fun to discover things not noticed before.

Under the sea there are still many "new" species to discover. Even in places where marine scientists have worked a great deal, "new" species are there for the finding. In remote places such as the WA north west coast there is only a basic framework of information about the marine flora and fauna, undescribed species are commonplace and significant range extensions may be found on any visit to the seashore. During a recent brief visit to Ningaloo Marine Park, shepherding some journalists, a few hours were spent in the water. It was hard to resist poking into the nooks and crannies and digging in the sand to see what molluscs were about. On this trip no less than four species were found which were not previously recorded so far south.

Burning coal a forest hazard

CALM'S Collie staff have an unusual land management problem... areas of coal burning in State Forest, a legacy of mining operations in the area.

Six people have stumbled onto the burning coal and have required medical treatment. The injuries have occurred since February this year. The worst area is near an abandoned open cut at Stockden, 10km east of Collie, that has been filled with water and is used by local people for recreation purposes. Other sites have been located on the town's doorstep. The problem seems to have arisen because overburden containing coal was dumped on roadsides near the town or heaped near the old open cut before mining operations ceased in the 1950s. The coal can be ignited by a camp fire, prescribed burning or wildfires. Five sites are known to Collie staff, but currently only one is active. District Forester Tom Keneally said the increase in population, leisure time and recreation interests has led to more people using the State Forest. He said the problem was compounded by the State Forest abutting the town without an industrial or agricultural buffer zone. Tom said the problem areas were monitored on a regular basis and the burning coal was fenced and sign posted. However, vandalism, especially to the fences, was a problem. Action taken by the staff to put out the fires included flooding the burning areas and suffocating them with gravel. An education programme warning townspeople to be on the lookout for areas of burning coal has started. The programme has been taken to the community through schools, the media and local service organisations. Tom said people were told to be on the lookout for various signs that indicated burning coal. These included the various colours of ash associated with a fire — yellow, pink, orange and white, the smell of burning sulphur, intense heat in an area without a naked flame being present, and cracked and spongy ground that tends to cave in when stepped upon.

The most exciting was CONUS NUSSATELLA, a semi-rare shell known in Australia only from Queensland. Such discoveries are not really surprising. The 250km-long Ningaloo coral reef is an outlier of the coral reef habitat. To the east the coastal waters are muddy and coral reefs are relatively poor except at the atolls (Rowley Shoals and Scott Reef) on the outer edge of the North West Shelf. Tongues of Pacific water pass through the Indonesian Islands and flow along the shelf-break to North West Cape, depositing their larvae of coral reef creatures from distant places. The newly discovered warm Leeuwin Current has its origins in this area and it, in its turn, carries the larvae of coral reef species from Ningaloo south to populate the reefs of the Abrolhos and even carries a few hardy travellers into the temperate waters of Rottnest, Cape Naturaliste and around the Leeuwin to the south coast. Ningaloo Marine Park, therefore, is an isolated coral reef system of immense interest for itself, but it is also an important reservoir and stepping stone for tropical coral reef species which extend their range onto the central west coast. I hope that we may build up a comprehensive knowledge of the marine fauna and flora of the park and it occupies a pivotal position on our coast.



KEVIN MORRISON holds a Bridled Tern on Seal Island off Augusta.

New era in Park management

ABORIGINAL RANGERS GRADUATE

BY TONY START

FRIDAY, December 12, marked the beginning of a new chapter in National Park Management.

The event was the graduation at four Aboriginal people who completed a year of training to be National Park Rangers.

The new Rangers, who were selected by their communities to take part in the training programme, will provide an input into park management from the people who have traditional affinities with the land that is now managed as National Parks.

Maitland and Johnny Parker, who are both Bunjima people, will be stationed at Hammersley Range National Park under the Ranger-in-charge Keith Cunningham.

Bruce Woodley and Robert Cheedy, who are Indjibarndi people, and work at Millstream Chichester National Park under Ranger-in-charge Ron Hollands.

The year of training has been facilitated by training officer Steve Szabo from A.N.P.W.S., but the resident and Mobile Rangers stationed at the two national parks have provided the first-hand knowledge of park management and supervised the work experience sessions during the training programme.

Far too many people have been involved in this programme to list them all, but the principal players have been the trainees, and their training officer, the rangers and their families, and the Aboriginal communities they represent.

CALM provided the infrastructure for the programme

and the Commonwealth Department of Employment and Industrial Relations paid for the trainees as well as two trips, one to the Kimberley and Kakadu in the Northern Territory and the other to the SHQ and the South West.

The graduation ceremony, which was held at Karratha, was attended by about 250 people who came as far afield as Canberra and Perth.

There was strong support from Onslow (80 people) and Roebourne (120 people) despite temperatures in the 40s.

The Executive Director, Dr Shea, presented the graduates with Certificates signed by both our Minister, Barry Hodge, and the Minister for Arts, Heritage and the Environment, Barry Cohen.

The Director of National Parks, Chris Haynes, presented each graduate with his authority card and they each received a book to commemorate this occasion.

Undoubtedly the hardest work during the entire year was fighting the wildfire that had raged in Hammersley Range

National Park for nearly two weeks, right up to graduation day.

A relief team from Wanneroo made it possible for the graduates to leave the fire and prepare for the ceremony.

Unfortunately the fire meant that some people who had played such an important part in this programme were unable to attend — they were still "on duty".

They included Rangers' wives Wendy Cunningham, Rosale Hollands and Pat Kregor, who had worked as hard as anyone during this emergency, manning communications, feeding the men and doing countless other tasks that had to be performed.

However, thanks to Syd Shea, Ron Hollands, and Keith Cunningham were flown from Hammersley Range National Park and the fire, which, thank goodness, was more or less under control by then.

CALM welcomes the four men to our ranks, but as someone said, the real job is just beginning.

A FOREST workman from Walpole has been awarded the inaugural Executive Director's Scholarship.

Twenty-two-year old Wayne Burton, who was on his honeymoon in Queensland when he heard of his success, was one of eight applicants for the scholarship.

The Executive Director's Scholarship is worth \$5,000 in addition to the cadetship allowance.

It allows the recipient to undertake the second year programme of the two-year field officer cadetship at the Department's Cadet School at Dwellingup, and qualify as a field officer.

ISLAND PATROL FINDS RARE N.Z. FUR SEALS

A wildlife protection patrol has confirmed the presence of New Zealand Fur Seals on the islands off the coast of Augusta.

The seals, which are rare and endangered, were believed to have been sighted on a similar patrol in 1985, but had not been seen since.

Busselton District Wildlife Officer Peter Lambert said four seals — a juvenile, two females, and a male — were sighted by the patrol in the area in early December.

Peter said the New Zealand Fur Seal was hunted to the point of extinction by sealers in the 1850s, and it had not been seen in the Augusta area until 1982 when three were reported on offshore islands.

Investigations have continued since, and sighting numbers have fluctuated.

In 1984, 23 seals were sighted, and moves were made to include the rocks surrounding St Alouarn and Seal islands as part of a nature reserve that covered the islands.

These rocks were vested as a nature reserve early this year.

Peter said it was hoped that the seals would set up a permanent colony in the area and that their numbers would increase.

Wildlife patrols of offshore islands are carried out bi-annually.

During the summer months they are visited on a more regular basis as a protective measure.

The December patrol included Peter, Charlie Broadbent, Kevin Morrison, Greg Pobar, Kim Williams, Steve Jolly, Greg Hanley, Don Noble, Ted Wright and Peter McDonald.

The patrol was also the maiden "ocean voyage" of the Pseudorca, a seven metre vessel bought by CALM for offshore island patrols.

While at St Alouarn and Seal islands, the patrol also carried out a wildlife survey because of the numbers of nesting seabirds using the island.

Peter said significant records were the breeding of the Sooty Oyster Catcher and Fairy Penguin.

He said there was also an increase in the numbers of nesting Crested Terns on Seal Island.

Other species recorded were Rock Parrots, Pied Cormorants, Caspian Terns, migratory Bridled Terns, Silver Gulls, Fleshy Footed Shearwaters, migratory Dotterels and Snipe.



FROM MY DESK

I must confess to occasional lapses of cynicism in this job.

That is why I was pleased to attend the Graduation Ceremony for Aboriginal National Park Rangers because it provided a real tonic and restored some idealism.

It is not often that you get 250 people attending a ceremony for four graduates in stifling heat and obviously feeling so proud at the success of the graduates.

This Aboriginal National Park Training Scheme has been acknowledged as the best that has been run in Australia.

It is always difficult to ensure that all the appropriate people are thanked, but I think this Department does owe thanks to Steve Szabo, Tony Start, Mary Colreavy, Chris Hynes and particularly the Resident Rangers and their wives for the success of the programme.

The Aboriginal Graduation Ceremony culminated a tough, but I think a very satisfying year for CALM.

There were many highlights — the review of timber royalties, the trainee system, saving the whales and dealing with severe fire emergencies etc.

But it would be wrong to focus on the highlights. The most satisfying aspect of last year was the solid team work that kept the show on the road at levels of achievement which critics could not have conceived.

The sad, or good news, depending on whether you like challenges or not, is that I think next year will be tougher.

SYD SHEA
Executive Director

VISIT TO INDONESIA

DIVISIONAL Manager Services Frank McKinnell recently visited Indonesia to assist in setting up a project which CALM will manage under contract to the Australian Centre for International Agricultural Research.

The ACIAR project will be concerned with research on the re-establishment of "Indian" sandalwood on Timor and the establishment of a series of tree species introduction trials for fuelwood production on Timor, Flores and Sumba Islands.

These will involve mainly eucalypts and wattles. As part of an inspection of past work in sandalwood in Indonesia, Frank was "required" to visit Bali.

As a result he has some difficulty in convincing his colleagues that the best sandalwood plantations, just right for some necessary research, are to be found on Bali.

They are definitely in need of a return visit or two. The ACIAR project, which is planned to run for three years will also involve training of Indonesian counterparts in research techniques and development of nursery and research facilities at Kupang, on Timor.

As the climate on Timor is very similar to a large part of the Kimberley District of W.A., the sandalwood research will have immediate relevance to the possible establishment of a new sandalwood industry in that region.

The project therefore has the potential to benefit both countries in a very real way.

The preparation of management plans is statutory requirement under the CALM act.

The Hamersley Range plan has been scheduled early in CALM's existence in response to many influences impinging upon the Park.

It is surrounded by past and present mining towns: Wittenoom, Tom Price, Parabaddoo and Mt Newman.

The new Perth-Darwin National Highway passes through its north-eastern corner and there are major roads to the north and west.

There are proposals for railway and access corridors through the southern partition of the Park.

As well as developmental influences the Park receives about 30,000 visitors a year, mostly to the spectacular

A Hamersley Range Management Plan

BY BARRY MUIR

gorges of the northern end.

Dales Gorge and the Weano-Joffre complex are considered a must for most visitors to the Pilbara.

With increasing developmental and recreation pressures, a plan providing future guidelines to management was essential.

Terms of reference for the plan are:

● Protection and maintenance of the Park's biological, physical and cultural resources.

made resources, and assess ecological processes and impacts on those resources.

Secondly, to develop a zoning plan to guide recreation and exploitative developments into environmentally and socially compatible portions of the Park.

Finally, to identify management issues such as rehabilitation, fire control, feral animals, etc. and to determine recreation demands and facility requirements.

A key technique for achieving these objectives is to solicit comments and ideas from the

direct interest in the Park.

Some public submissions have already been received but the main workshops and public meeting have had to be postponed temporarily because of the wet season, when many Pilbara residents are in Perth and park visitor numbers decline.

In the meantime Perth-based schools and interested clubs are being contacted and visitor and other data being collated.

A major contribution has come from Linda Dival who has been employed on an ANPWS grant at Karratha for eight months to collate local information on recreation, natural resources and Aboriginal interests.

Local Aborigines have strong affiliation with the Park and will have considerable input into the Plan.

CRAFTS WOOD RESOURCE

EARLIER this year a petition was received by the South West Development Authority indicating a strong concern from the Manjimup community that speciality timbers such as Sheoak, River Banksia, Warren Cedar and Peppermint were not being recovered during logging in State Forest.

The petitioners pointed out that such timbers were sought after by craftspeople.

The petition was passed to CALM.

Within CALM this concern sparked a realisation that there is greater demand for such timbers that had previously been thought.

It was felt that the Department should take a more active role in improving access to and use of this resource.

A programme has started to ensure that woods found in logging coupes or other areas are logged by a contractor and sold to the public.

Initially the sale of the

specialty logs will be by tender or auction at Manjimup.

Some burls are also being collected for sale.

The first sale of this material is likely to be held in early 1987.

Any idea on how this might best be done would be welcome.

CALM is anxious to promote the use of any resource such as speciality timbers where these become available through logging operations and would otherwise be wasted.

Specialty timbers are seen as providing an important basis for local employment in the

crafts industry which will complement the growing tourism industry.

This arrangement addresses only part of the story, however, as it only deals with live, standing trees in areas that are to be cut.

Many craftspeople prefer to use timbers that are long dead, lying on the ground, or are not 'speciality' in nature but rather difficult to find in suitable dimensions, such as Jarrah slabs.

This other material continues to be available to the

public under license as in the past.

No licence is needed for small (trailer load) quantities of firewood, taken from the ground, for personal domestic use.

A licence is required before any other material may be removed from the forest, or any tree (living or dead) is felled.

The cost of the licence will depend on the product.

There are specific (and different) royalties payable for such things as garden paving slabs, burls, dead blackboy

stumps, hollow logs, bean sticks and chopping logs, as well as the more common fence posts, strainers and poles.

A hobbyist may turn a bowl from a piece of dead Sheoak lying on the ground and collected with his firewood, without a licence.

The craftspeople who want quantities of speciality timber for a specific purpose of commercial use and wishes to get it direct from the forest can do so under licence. — ALAN WALKER and RICHARD MCKELLAR.



BARNEY QUICKE with just a few of his many paintings.

BARNEY CAPTURES THE LOCAL HUES

The colours of the Australian bush crowd the inside of Barney Quicke's house near Harvey.

Barney, who is in charge of hardwood operations at Harvey District, is an artist.

He is putting together a series of paintings depicting the history of the Harvey Shire, beginning with Australind.

"This is the area where I live, and I didn't realise until recently what a unique and interesting history Australind has," Barney said.

Barney paints two or three hours after work and on the weekends, and does research for his paintings.

He will do three paintings of each building — one of the building as it first appeared in photographs, the second when it was added to, and the third as it is now.

He said he hopes to produce a book of the paintings when the works are finished — he's almost halfway through, with 45 paintings completed.

Barney's father and grandfather were artists, but Barney didn't start painting until a back injury at the former Forests Department kept him

away from work for an extended period.

His first painting was one of the Donnelly River dam near where they were living at the time.

He attended one art class in Manjimup, "mostly to find out how to wash the paint off the brush," and the rest was self-taught.

When Barney had accumulated 11 paintings, his wife Helen entered them in the Bridgetown art exhibition.

Barney didn't share Helen's enthusiasm and went fishing.

When he returned, he was astounded to find out that 10 of the paintings had sold.

He has since entered exhibitions throughout the State and received some 48 awards and prizes.

Many of his paintings have made it to other States and even other countries.

Barney is planning an exhibition in a private gallery in Perth soon.

— COLLEEN HENRY-HALL

Shelterbelts produce mill logs

BY RICHARD MOORE

In May 1986 a survey of pine shelterbelts in the Esperance region, by a team from the CALM Research Station in Busselton, found that on suitable sites, pinus pinaster and pinus radiata grows into trees large enough to sell as mill logs.

The survey sought to estimate the volume and value of these mill logs, had they been suitably managed.

This information is important because farmers in the region are interested in shelterbelts producing saleable timber as well as controlling erosion of soil by wind and providing shelter for stock and crops.

Hundreds of kilometres of pine shelterbelts have been planted in the Esperance region during the past 60 years.

The Forests Department helped plant many roadside

shelterbelts during the sixties under a joint scheme with the Esperance Shire.

However, they have proved to be inadequate during times of real need, such as during a severe storm in 1981.

One farmer lost about 3400 lambs and 575 ewes at this time and the loss to the District was more than \$9 million.

Consequently a new style of shelterbelts commenced.

Instead of being along the boundaries of paddocks, perhaps two or three or even more kilometres apart, the new

shelterbelts were planted 50 to 200 metres apart.

Pine is the favoured type of tree because it establishes more easily than eucalypts, it is tall and it retains much of its foliage.

Also, as some farmers in New Zealand have shown, pine shelterbelts that are suitably managed (pruned) can produce saleable timber.

The recent survey indicated value of timber in a 30 year old pine shelterbelt is up to \$6000 a kilometre.

Provided trees are pruned and a market develops, therefore, farmers may receive a return when their shelterbelts are mature, rather than having to pay money to have them knocked over.

CALM News is the Department of Conservation and Land Management's 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: Colleen Henry-Hall, Department Conservation and Land Management Como WA 6152 — phone 367 6333 — ext 322. EDITOR: Richard Grant 386 8811.

Training session held at Manjimup

BY ALLAN SANDS

FOURTEEN members of the Southern Forest Region proved conclusively that the Gloucester Tree is exactly 31.08 metres from the information shelter.

This vitally important data was discovered, checked and plotted by a group of Overseer, Rangers and Officers during a Recreation Design and Survey Training Session held at Pemberton in October.

Wayne Schmidt and Richard Hammond from Recreation and Landscape Branch undertook the training session, which is believed to be one of many they have planned for the Department.

Regional Manager, Alan Walker, during his introduction to the training session,

emphasised that there was a need to train personnel involved in recreation, stressing that the training must involve those who build and maintain the facilities as well as those who do the planning and design.

During most training sessions various gems of information became known.

In this case it was interesting to note that the accuracy of the Departmental Sikkisha theodolite was verified by Overseer Alan Hadfield once he had paced the distance himself.



TRAINING session participants doing the measuring exercise.

NW turtle survey under way

A long-term survey of the breeding habits and movements of marine turtles has started in WA's North West.

CALM Research Scientists Bob Prince from Woodvale and Keith Morris from Karatha have been tagging turtles at separate rookeries in the Pilbara and Kimberley since the nesting season started several months ago.

While there is some knowledge of nesting sites of the various species found in WA, the intensity of use of these sites and the patterns of movements of turtles away from rookeries is unknown.

The survey will supplement marine turtle research that has been carried out over the past 10 years by Colin Limpus of the Queensland National Parks and Wildlife Service.

Four species of marine turtles are commonly found in North West coastal waters — Green, Hawksbill, Loggerhead and Flatback.

Green and Hawksbill turtles are classified internationally as endangered species and the Loggerheads as vulnerable to extinction.

The survey's operating costs were funded by a \$15,000 ANPWS State's Assistance Programme grant in 1986.

The tagging programme being undertaken by Bob and Keith will not only provide information on turtle numbers, which have recovered since the last hunting licence was revoked in 1974, but also turtle movements, breeding habits, and the distribution of the species and the location of major rookeries.

So far this season Keith has tagged 255 Green Turtles on Barrow Island, and Bob 420 of the same species on West Island in the Lacepede Island group off the Kimberley coast. Bob said the intention was

to expand the survey to cover the area of turtle distribution in WA.

Already he has recruited the Australian Coastwatch service at Broome to report regularly on turtle movements in the more remote Kimberley islands, and the service recently surveyed 80 Mile Beach and found an area of significant turtle activity.

Bob has also recruited help from Aborigines from the One Arm Point community to help with his work, with financial assistance being arranged by the Broome office of the Commonwealth Department of Employment and Industrial Relations.

While the Aborigines have traditionally taken turtles and dugongs, another endangered species, for food, Bob's long-term plan is to make the community aware of the importance of conserving these species.

He has already had some success.

A tagged turtle recently captured in King Sound near One Arm Point was returned to the sea by the Aborigines.

From a description of the tag, Bob was able to find out that it was tagged at a nesting beach in South East Java, probably in the early 1970s.

Keith Morris will continue his tagging work on Barrow Island in the New Year and he will also include Muiron Islands off North West Cape and Cape Range National Park near Exmouth.

Keith is currently involved in the preparation of a draft management plan for the Dampier Archipelago, a significant marine turtle rookery. — RICHARD GRANT.

BOOKLET SERIES LAUNCH

A NEW CALM publication 'Goldie and the riddle of life' is the first of a proposed 'explorer series' of children's activities booklets for use in natural areas within each region.

The booklet is a collaborative effort from the Information Branch, written by Southern Information Officer Rae Burrows, illustrated by CALM's Louise Burch, with activities prepared by Interpretation officer Gil Field.

The concept for the proposed series was born out of a brain storming session including Rae, Gil and Education officer Susan Worley.

Susan said: "The proposed explorer series of publications is aimed at encouraging children to experience nature, while developing an understanding of the relationship between living things and their environment".

If funds and ideas are forthcoming from the regions, information branch staff propose to produce stories and activities with a different ecological concept as the theme behind each story.

The 'Forest Explorer' booklet develops the concept of habitat — that all wildlife needs a home.

Some proposed concepts to be developed are change, adaption, community.

CALM parents are encouraged to put their kids thinking caps on for appropriate story ideas.

But first grab a copy of 'Goldie' for inspiration.

— GIL FIELD.



KEITH MORRIS (left) and John Parmenter tag a Hawksbill Turtle found on Rosemary Island in the Dampier Archipelago. Photo courtesy of the West Australian.

FERAL ANIMAL CONTROL AT BUNGLES

BY CHRIS DONE

Shire's concern

FOLLOWING standard procedures, CALM's Wildlife and Land Administration notified the Shire of Wongan-Ballidu that the type locality of a geographically restricted plant, *CALOTHAMNUS BREVI-FOLIUS* occurred along a road verge controlled by the Shire.

Unfortunately, the notification arrived the day after roadworks in the area had taken place.

The Shire Works Foreman, Mr Barry Minter, rang immediately he received the letter and asked for the exact location of the plants.

Mr Minter felt that the Shire Council would be most upset if the roadworks had inadvertently damaged any valuable flora.

With the help of the Wildlife Officer based at Wongan Hills, Robert Coughran, the plants were located and, though damaged, were not totally destroyed.

Spoil has now been pushed carefully away from the plants and the site marked.

This is an encouraging example of the concern that is felt in many local communities for protecting our unique wildflower heritage. — PENNY HUSSEY.

Parts of the Proposed Bungle Bungle National Park have been subject to heavy grazing pressure since the late 19th century when cattle were first grazed in the area.

Indeed the Government acquired a large reserve for regeneration purposes in 1967 so that the then soon to be constructed Ord Dam (and Lake Argyle) would not be rapidly silted up from eroding pastoral lands.

Very effective regeneration work has been carried out by the Agriculture Department over that part of Ord River Station to the east of the Ord River, but that section to the west (including Bungle Bungle) was left largely to its own devices until the area was "discovered" by tourists in 1983.

During that period cattle and donkey numbers increased dramatically, and it was not unusual to see mobs of 50 or more.

Even camels were occasionally seen, although these were usually in much smaller groups.

Severe erosion was being caused in the more fragile land systems and the Department of Agriculture began a programme of destocking and regeneration in 1985.

During the last two dry seasons, some 90km of fence has been built and another 17km is proposed to exclude restock-

ing from adjacent areas and about 10,000 cattle have been mustered from the proposed park.

In addition more than 3000 feral donkeys have been destroyed.

Where appropriate regeneration techniques could be used without exacerbating the ero-

sion hazard this was done, but over much of the degraded area it is assumed that the destocking and the maintenance of the area in a destocked condition will allow considerable natural recovery to occur.

Keeping the area destocked will not be easy, but it is essential to ensure a reasonable rapid recovery.

Rescue training

A RESCUE Training Seminar was recently held in the South Coast Region with attendance by office staff, park rangers, a wildlife officer and a reserve officer.

The course was split into two groups of eight participants each, and run first at Hopetown, for the Fitzgerald and Esperance based staff, and then at Albany for the Albany based staff.

Over a two-day period participants were given a refresher or introduction (several participants had no previous experience) to rescue equipment and to stretcher lowering and raising.

Instructors were Brad Cockman ranger-in-charge of the Stirling Ranges National Park and John Watson, Regional Manager.

Assessment forms on the course are still being returned, but initial responses indicate that the course was judged to be extremely valuable.

Most participants appeared to favour regular three to six monthly refresher sessions with larger sessions every one or two years, which may involve personnel from other agencies.

An article on the Department's search and rescue role will appear in a future issue of 'Landscape'.

The next training session by the Region is likely to concentrate on search procedures. — JOHN WATSON.



SENIOR PILOT John Woodward and General Manager Roger Underwood discuss the flight plan before flying a spotter circuit at Mundaring.

SPOTTER SURVEILLANCE SYSTEM — VITAL ROLE IN FIRE DETECTION

The introduction of aircraft in the early 1970's to detect forest fires has been developed to such an extent that today CALM has a unique and effective aerial surveillance system.

Formal fire detection was developed as early as 1921 when WA's first lookout tower was built at Mt Gungin near Mundaring.

Between 1921 and the mid-1960's more than 30 lookout towers were brought into service to provide a fixed surveillance network covering all forest areas in the South West.

The lookouts were arranged so that, theoretically, smoke from a fire would be visible from two or more towers, allowing cross bearings to be taken and reasonably accurate plots of smoke positions calculated.

But while the lookouts provided a useful service there were drawbacks.

Indirect view of fires meant that many fires went undetected for a long time resulting in delays to suppression and increases in costs.

Also when a smoke report was issued it took time for an officer to go to the area and carry out a reconnaissance before advising the fire controller what suppression forces were required.

In the early 1970's when the older fire towers needed extensive and costly

maintenance or had to be replaced, small and reliable light aircraft were becoming available.

Senior officers with the Forests Department considered that an aerial fire detection system may have advantages over fire towers, an assumption confirmed by a fire management tour of the US by the Department's Superintendent of Fire control in 1972.

In the autumn of 1973, a 10-day spotter trial was carried out over the Blackwood Valley and the Donnybrook Sunklands, in a hired Cessna 150.

The initial results were so encouraging that a further 18-week trial was arranged in the Pemberton area at the start of the 1973-74 fire season.

Within three weeks it was decided to use spotter aircraft throughout the season in preference to lookout towers in the Pemberton Division.

Spotter operations were expanded to other forest areas in the following fire seasons and by 1976-77 they were covering all of the State's forest areas except the Wanneroo pine plantations because of RAAF restrictions in that area.

In December 1974 and February 1975 the spotter aircraft proved their worth when 40 simultaneous wildfires were burning, and without early detection and the quick despatch of suppression forces the damage would have been far greater.

Following Cyclone Alby in 1978, spotter aircraft played a major role in the Department's ability to contain fires covering about 7000ha in State forest.

The main advantage of spotter aircraft over towers is in the pilot being able to detect and report fire locations and their behaviour quicker and more accurately.

From this information duty officers can access suppression requirements without seeing the fire, and quickly despatch suppression forces.

Lookout towers are still manned in the Wanneroo and Nannup-Kirup Districts to provide continuous surveillance over the valuable pine plantations.

In addition a further 20 towers are maintained to provide a back-up detection system when the spotter aircraft cannot be flown.

As a result of the speed of detection, forces often encounter smaller fires.

For the 1986-87 fire season CALM will operate nine aircraft over eight aerial circuits — Mundaring, Dwellingup, Collier, Busselton, Blackwood, Manjimup, Pemberton and Walpole — that covers the Department's three forest regions.

Up to seven pilots will be employed during the summer to complement CALM's three full-time pilots. They will be flying Piper Super Cub

aircraft, an aircraft with good off-the-ground performance, no load restrictions when fully fuelled, and excellent all-round visibility.

Annual two-day induction training courses are held to familiarise pilots with CALM's aims and policy, the role of the Protection Branch, the Department's safety programme and communications systems.

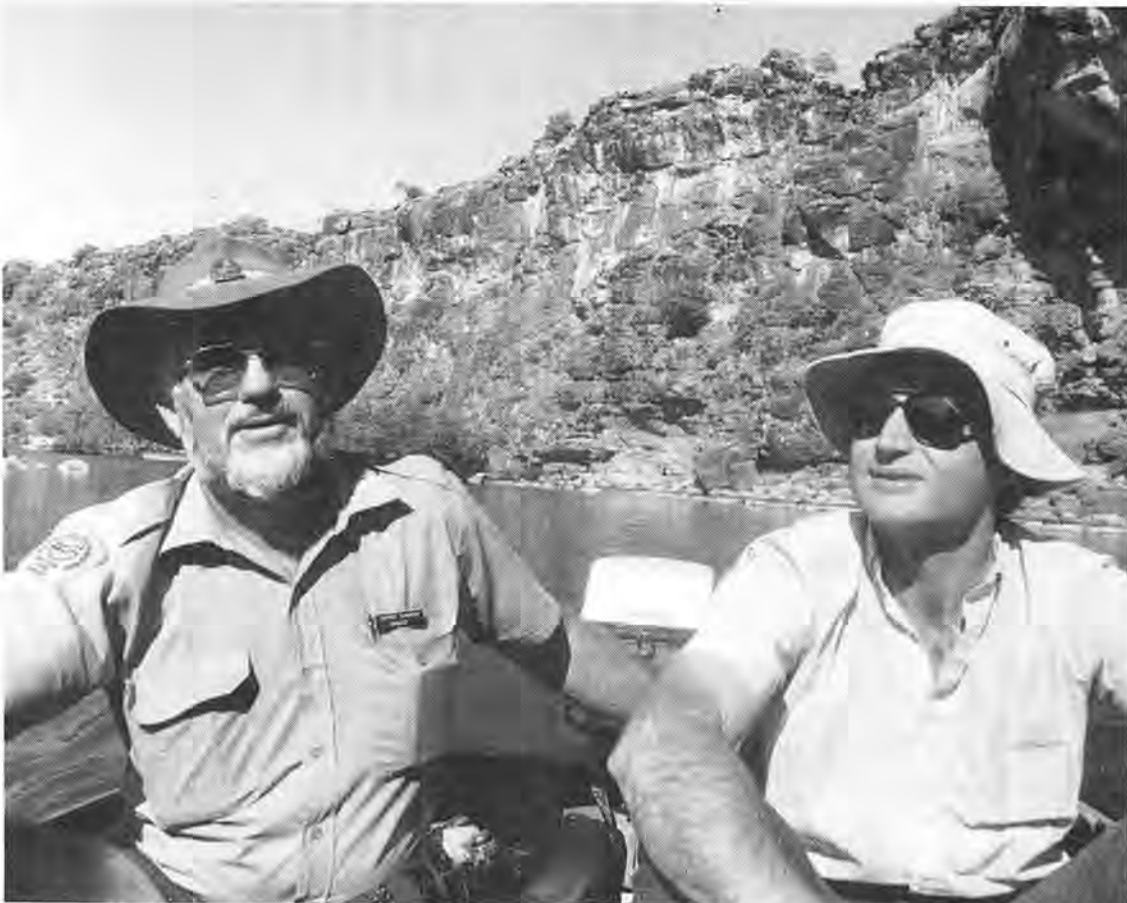
In addition each district provides a comprehensive training to its base pilots on fire control methods.

The growing significance of aerial detection can be seen in the more than 7500 flying hours flown in the 1985-86 season compared to 300 hours in 1977-78.

CALM's aircraft manager and chief pilot, Max Folks, who has flown in aerial surveillance work since its inception, said the use of aircraft has had a dramatic effect on fire fighting operations.

In particular, the number of fires resulting from careless escape from farms and neighbouring lands have decreased significantly.

The Department's ability to assess the potential of the fire and quickly expedite fire fighting resources had resulted in a reduction in the size of wildfire and a saving of private property, state forest and, probably lives.



STEPHAN FRITZ (right) examines Yardi Creek with Cape Range National Park with Park Ranger George Duxbury. Photo courtesy West Australian.

Stephan settles in at Exmouth

The duties of CALM'S District Manager at Exmouth, Stephan Fritz, are as wide ranging and diverse as the area for which he is responsible.

But before he settles into a regular daily routine, Stephan has the enviable task of helping to establish Ningaloo Marine Park as one of the State's prime tourist locations and WA's premier marine park.

The marine park is expected to be declared over most of the 270km reef that stretches south from Exmouth to Amherst Point early next year.

Stephan started site surveys of camping areas in the proposed marine park soon after he arrived at Exmouth with his wife Debbie and 18-month-old son Jess in July this year.

He is looking to rationalise the camping capacity of the Cape Range National Park, which currently numbers about 60 bays, and to improve the camping conditions along the coast further south.

Camping sites situated on very fragile dune areas damaged by erosion and vehicles will be closed and rehabilitated.

Others will be stabilised and the possibility of opening up additional stable campsites will be explored.

Alternative access to the beaches and lagoons are being provided, and special recreation areas are being earmarked.

He is liaising with tourist bus operators who are expecting a large increase in the 60,000 people who visited the area last year.

Because of the expected increase in tourist activities, Stephan is also negotiating with local pastoralists whose properties abut

the proposed Ningaloo Marine Park for CALM to take over the management responsibility of the coastal portions of these properties.

CALM's management for these areas will go hand in hand and complement normal pastoral operations.

His background as a technical officer with the Department of Agriculture, during which time he spent four years working on range land surveys, provided valuable practical experience in negotiating with the lessees of Ningaloo, Cardabia and Warroora Stations.

Stephan will also negotiate an agreement with the Exmouth Shire Council over management responsibility of Crown Land vested in the Shire which fall within the proposed park boundary.

The next major development is the building of an interpretation centre in the Cape Range National Park, which is adjacent to the proposed Ningaloo Marine Park.

The centre is funded by a \$1 million Bicentennial Authority grant.

Stephan said the centre would provide a wide range of information to familiarise and orient visitors to the area and its attractions.

He said that while the remoteness of the park and the harshness of the environment had presented problems for the engineers, a plan was being developed and construction of the centre would start in the new year.

Following the completion of the new Ningaloo management plan, Stephan will be involved in developing national parks at Shark Bay, Kennedy Range and Mt Augustus.

In his spare time he is working on an honours thesis on the rehabilitation of degraded land on the Wooramel River frontage near Shark Bay.

Craft display — conference plan

CALM employees and their friends or relatives who practice a craft may soon be able to show their work in a major exhibition in Perth and attend a workshop/conference.

The Crafts Board of the Australia Council provides project grants of up to \$40,000 to assist major innovative projects which provide professional development or encourage interaction between craftspeople.

Cliff Winfield hopes to form a group, which he has tentatively dubbed "bushcraft", comprised of artists and craftspeople from all over the State.

His idea is to apply to the Crafts Board for assistance to stage an exhibition of works of say 10 artists selected by an independent panel, and for travel funds help to bring all

interested craftspeople together for a workshop/conference.

Cliff is keen to hear from all painters, potters, printmakers or whatever, particularly those in remote areas.

Send details of your craft and perhaps outline the advantages and disadvantages of your location.

He is also interested in hearing how you think a project such as "Bushcraft" might be run, and any other matters you would like to see on the agenda of the inaugural meeting.

Also, indicate whether you would be prepared to stand for office as Director, Secretary or Treasurer of the "Bushcraft" group, or if you have had previous experience in either submissions to the Australia Council, or in staging an exhibition.

Post your details to: "Bushcraft" c/- Cliff Winfield, CALM COMO.



BOAB on cliff face in the King Leopold Ranges. Rock wallabies have been found to distribute boab seeds in their faeces.

Waterbirds breeding — Wetlands Site Survey

With the use of statistical information and computers, the wetlands of the South-West are being analysed for their ability to be used for breeding by waterbirds.

Dave Ward and Jim Goodsell, using data gathered by the Royal Australasian Ornithologists' Union, are identifying the combinations of factors necessary for different species of birds to breed on certain sites.

Jim said the aim of the project is to develop a predictive tool that will enable the classification of wetlands and help determine their subsequent management.

The data come from four years of observations of 127 species on 399 wetlands.

One of the major factors being examined by Dave and Jim is the level of salinity of these wetlands.

The first task was to establish any connection between the salinity and the occurrence of breeding birds.

Having established that, the two are now using statistical methods to ordinate and cluster the data, looking for other patterns.

"We're using these records of wetlands to establish relationships between the wetland's character and the breeding character in terms of its vegetation, size, depth of water and water quality," Jim said.

He said: "There are many indicators that can be used to produce a predictive tool, and we've chosen to look at the breeding of

waterbirds as an indicator of habitat quality."

Results of their work so far indicate that the majority of the wetlands surveyed are of such poor water quality that they are unsuitable for waterbird breeding, and if these wetlands are further degraded, WA may lose a number of its breeding birds.

"The water values are biologically limiting, they're very salty," Jim said.

"With this information, we can determine which wetlands are ecologically valuable enough to warrant attention, and then decide which of those should be managed for biological purposes such as the continued breeding of waterbirds," Jim said. — COLLEEN HENRY-HALL.

Benger Management Plan

COMPLEX ISSUES ADDRESSED

BY SUE MOORE

BENGER SWAMP, 25km north-east of Bunbury, is one of only four known breeding sites in south-western Australia for the Freckled Duck, a rare and endangered species.

Also, the Swamp has the highest number of Australasian Bitterns, a reed-dwelling species, recorded from many of the 18 known sites in south-western Australia.

In addition, it provides a seasonal wetland for a wide range of waterbirds, from diving ducks to waders. The Swamp has changed dramatically since European settlement.

Earlier this century, 200-250ha of the 600ha swamp were used for vegetable cropping, mainly potatoes. To enable crops to be grown and harvested before the Swamp flooded in late autumn, the Swamp was drained in early summer.

If it had been left to dry naturally it would have taken a further six to eight weeks to dry.

This cycle of flooding and drying has led to a range of water depths and an associated diversity of waterbirds throughout the year. The vegetation on the Swamp has been dramatically altered by clearing for cultivation and associated fires.

Much of the Swamp is now dominated by the bulrush Typha, which is invading and choking many of the wetlands on the Swan Coastal Plain.

Small stands of Melaleucas remain on areas of higher ground. The attention of the Government was first drawn to the conservation values of Benger Swamp by Honorary Game Warden, Reg Taylor.

In mid-1973 an area of 56ha on the Swamp was offered for sale and subsequently pur-

chased by the Department of Fisheries and Fauna.

Additional land sales quickly followed.

Now, 87 per cent of the Swamp is owned by the Government, the other 13 per cent is privately owned.

The Swamp has been used for a number of years for duck-shooting.

Its popularity has declined in recent years as water levels have been too low by opening day for reasonable numbers of ducks to be present.

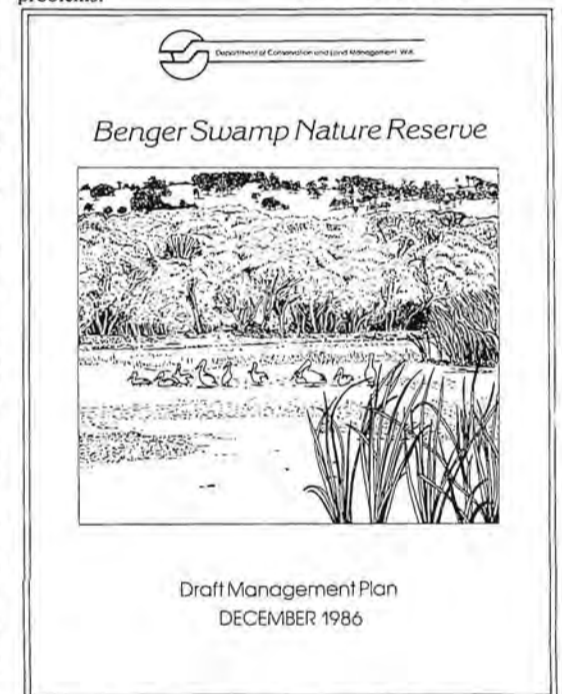
A draft management plan was prepared, in an attempt to resolve this complexity of problems.

Doug Watkins (consultant biologist) was employed in late 1985 to join a project team, coordinated by the Planning Branch and including Jim Lane (Wildlife Research) and John Clarke (formerly Harvey District Manager).

The draft management plan was released for three months public comment in early December.

Copies can be obtained from Robyn Weir, Distributions Clerk, State Operations Headquarters.

CALM MINISTER BARRY HODGE HAS PROHIBITED DUCK SHOOTING AT BENGER SWAMP.



WALLABY SCATS SOLVE MYSTERY

"HOW do those boabs get right up on the cliffs like that?" I am often asked.

To date, I have only been able to refer vaguely to birds and animals perhaps carrying a pea-sized seed to the safety of the cliffs as a food source, or perhaps seed falling down the near vertical faces from trees perched near the edge above.

A clue to what is more likely explanation came to light when Ranger Bob Taylor, Landscape Architect Richard Hammond and I were checking out a proposed new walk trail in MIRIMA-HIDDEN VALLEY NATIONAL PARK near Kununurra recently.

Bob was idly crushing a rock

wallaby scat (the things some people do!) when he noticed an undigested hard lump which he could not identify.

You guessed it... it was a boab seed which, having collected and grown a few in my time, I readily recognised.

In a state of some excitement, I spent the next hour or two seeking out and crushing up wallaby scats.

There were fresh ones, dry ones, big ones and not so big ones, and I found that a fair percentage (maybe 50 per cent) had boab seeds in them, pelleted in a wad of compacted spinifex "peat" and ready to germinate with the onset of the wet season.

The wallabies treat the cliff with impunity and would certainly give the boab seeds the mobility they would need to answer the original question, but why would any wallaby in its right mind want to eat those apparently indigestible lumps?

Most likely they are "addicted" to the white powdery matrix in which several dozen seeds are imbedded in each pod.

The powder is sherbet-like and was and is still widely eaten by Aborigines and apparently is an excellent source of vitamin C. — CHRIS DONE.