



CALM News

COMO RESOURCE CENTRE
DEPARTMENT OF CONSERVATION
& LAND MANAGEMENT
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Orphaned Joey in safe hands



OVER the past 12 months a number of euros and red kangaroos have been brought into CALM's Pilbara office at Karratha.

Many have been nursed by Lyn Mills, who voluntarily looks after orphan and sick animals.

Some of these animals have been released at Millstream and Hamersley Ranger Stations.

Visitors are thrilled to see these tame animals free ranging but close enough to be viewed.

One intrepid photographer was stalking a kangaroo near Crystal Pool.

He fitted a telephoto lens and crawled through the bushes.

To his surprise, when the kangaroo saw him, instead of bounding off, it hopped over to him and peered into the lens.

Pictured here is Clerical Officer Colette Ware, at Karratha Office with a young euro.

BLUEGUM PROGRAMME GETS GO-AHEAD

By ROSS YOUNG

An initial 2,000 hectare bluegum planting programme on private property has been approved for 1988.

It is proposed that most of this land will be planted under a hardwood sharefarming scheme (1,900 hectares) the remaining 100 hectares in several strategically situated trial plots under a National Afforestation Programme funding scheme.

This scheme will provide \$1.288 million to CALM over a three-year period part for establishment of trees, part for research work on the various aspects of large scale tree planting on catchment areas.

Seeing that the planting season will start shortly and will only last for about three months, it may be difficult to secure and prepare the full 2,000 hectares for this 1988 planting season.

The nursery staff at Manjimup have done a first class job in raising 1.5 million *E. globulus* seedlings for the project.

Alcoa are growing a further 500,000 seedlings required for the 1988 plantings.

The ball is now firmly in the court of the field personnel to secure and prepare sufficient area for all these seedlings to be planted in June and July.

Enquiries to date from throughout the south-west have been sufficiently encouraging to believe that the planting targets for 1988 will be achieved.

The principal planting programmes will be concentrated in Peel/Harvey and Wellington water catchment areas although it is hoped that small areas will be established on vari-

ous sites throughout the south-west from Mandurah to Albany.

Significant environmental benefits will include reductions in erosion and salinity levels in the water catchments, and a reduction in fertilizer leaching into waterways.

The hardwood sharefarming scheme, the method of calculating the payments, the contracts, all aspects of the programme are similar to the softwood sharefarming scheme.

However, payments per hectare to landowners could be somewhat higher because of the low maintenance costs associated with a bluegum plantation.

Therefore it is proposed

to place a quota on the amount of hardwoods that can be planted within our traditional pine plantation regions based on two hectares of softwoods for every one hectare of hardwoods planted.

This rule should enable reasonable balance to be obtained in our overall plantation establishment programmes.

The 1988 plantings are only the planned fore-runner for annual plantings of some 10,000 hectares of *E. globulus* a year.

CALM staff have a real challenge to meet if they are to successfully manage and supervise annual plantings of that magnitude.

Visitor survey update

A SUMMARY of information on visitor use of CALM lands being produced by Luisa de Braganca from the Recreation and Landscape Branch is nearly completed.

Luisa, who has spent the last year preparing the public information data base, has visited all CALM's districts and regions to see what information they have and what information they need on public use.

"I've found that the information we have is limited and sometimes not useful in terms of what we need to know," Luisa said.

Luisa, with the help of a steering committee comprised of Jim Sharp, Sue Moore, David Ward, George Malajczuk and Ian Herford, has come up with a list of national parks nominated for continual data collection.

The districts were also able to comment on the choice of parks.

The parks were chosen on the basis of availability of staff to collect data, the importance of the park and site use within the park.

Luisa said: "On my visits to the districts and regions, I found that data has never been collected in a systematic, continuous, standardised way, and there is a great need for periodic data for analysis."

The list of parks is now with the Policy Directorate.

Luisa also is producing a set of guidelines for the collection of visitor data, including different techniques available.

She said: "The guidelines are not a recipe, because everyone has different requirements, but the suggestions are there to follow."

"District and region staff are responsible for collecting data, and their judgement, experience and knowledge put them in a good position to suggest the best way to collect it."

This is the last stage of the three-stage project that will see a visitor use information system in place for CALM.

1988 Great Duck Count

By JOHN BLYTH

OVER the eight days between March 5 and 13, more than 200 volunteer birdwatchers took part in the third annual Great Duck Count, organised by the Royal Australasian Ornithologists Union (RAOU) and funded by CALM.

This carefully organised survey is designed to count total numbers of ducks, swans and coots in the south-west and their distribution among particular wetlands.

The Co-ordinator is Rodney Vervest, who works closely with the RAOU's Waterbird Officer, Roger Jaensch.

All of the preparatory work, including liaison with volunteers and CALM officers, selection of wetland blocks, and issuing of survey sheets and detailed maps to each counter is conducted from the RAOU's office at Canning Bridge.

This office is the nerve-centre of the RAOU in WA and is partly funded by money for studies, such as the Great Duck Count, which are carried out for CALM.

For the count the south-west is broken up into 10 blocks, as far as possible all wetlands within one or more blocks are assigned to particular volunteer(s).

The counting by volunteers is supplemented by experienced

members of CALM's research division: Jim Lane, Stuart Halse, Don Munroe, and Grant Pearson.

In addition, an aerial survey over key areas is conducted by one or more of these officers.

This year the aerial survey coincided with what were probably the windiest two days in the State for many years.

The intrepid pair of Stuart Halse and Don Munro, plus their pilot (who convinced them that it was perfectly safe) spent 10 hours in a light plane being buffeted from side to side while zooming around, 10 or so metres above the ground, trying to count dense flock of ducks.

The pilot was right — Stuart and Don returned safely, with a good count of birds on many large and inaccessible southern wetlands.

However, they are both hoping for calmer conditions next year.

The information gathered in the Great Duck Count should identify any major changes in the abundance of each species of waterfowl.

It also permits an appraisal of the importance of particular wetlands for particular species.

With these sorts of data CALM can review the effectiveness of existing measures for the conservation of ducks, and can make, or recommend, changes when necessary.

FOREST FIRES TAKE THEIR TOLL

WILDFIRE suppression operations for five major fires cost CALM more than \$605,000 in February and March.

And an estimated \$800,000 in pines was destroyed at the Folly Plantation near Nannup on March 12.

This fire, which cost the Department \$165,000 to control and which destroyed 170ha of pines and 250ha of private property, is believed to have been deliberately lit.

Unfortunately it also destroyed three historic wooden railway bridges.

Nearly 15,000ha of State forest, national park, pine plantation and private property were damaged in the five fires in the two months,

including more than 12,000ha of the D'Entrecasteaux National Park on the south coast.

Lightning strikes on March 8 caused the D'Entrecasteaux fire which took more than a week to bring under control at a cost of about \$140,000.

At one stage firefighters had to be ferried down the Donnelly River or driven around beaches in four-wheel drive vehicles because the rolling sand dunes that run back from and parallel to the beach make the area inaccessible to fire-fighting vehicles.

A large fire that damaged

about 800ha of State Forest in the Lane Poole Reserve on March 4 and 5 forced the Department to evacuate campers and visitors from the reserve and close it to the public at the height of the fire.

Suppression costs for this fire were \$210,000.

More than 100 CALM staff as well as Alcoa and local Bush Fire Brigade units were involved in suppression operations, and police and State Emergency Service personnel manned roadblocks.

CALM crews and volunteer

brigades suppressed a fire at Brigadoon near the Walyunga National Park on February 6 and 7.

About 250ha of private property was affected, at a cost to the Department of \$10,000.

Eighty-six CALM staff along with Alcoa and local Bush Fire Brigade units fought a large fire at Jarrahdale, about 20km south of Armadale on February 6 and 7.

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FROM MY DESK

RECENTLY I spent an interesting afternoon in a District Office during the record long hot spell of summer 1988.

Owing to various changes in my role over the years it is probably 15 years since I've done this, and I couldn't help reminiscing over the changes that have occurred in the humble district office since the 1950's and '60's.

The fire weather forecast used to arrive (at least in good radio transmission conditions) via the old FS6, a pensioned-off ex-army radio at 0745 hours and be relayed by earth return telephone to the fire towers.

We then interpreted the forecast to make a best guess about who would be on stand-by.

Those who were on stand-by had to stay near the phone throughout the time they were on-call.

If we had a fire we reported to Como by phone trying to describe the size and shape of it so that the staff at Como could plot it on their maps.

This was a slow, tedious and generally very inaccurate method.

If we had to stay in the office during a fire or when fires were running in other districts we sweltered in the heat, took a cut lunch and a thermos and put up with it.

What a contrast there is now! Most districts have aircraft for spotting, or have towers on radio telephone, and communications are very direct and very quick.

The forecast comes through a computer terminal and is printed out automatically, that is if one knows how to make the terminal work.

If a plot of the fire is required by fire control it is a simple matter to send it by facsimile machine in a matter of seconds.

Duty officers now have radio in their vehicles, a paging device if they leave home for any particular reason, and the office itself in most cases now has a refrigerator, a microwave oven, a video, some type of airconditioning and a coffee bar.

All these advances are all very well, but the actual job of putting out the fire has not changed nearly as much.

We do have an effective line of command and call-out procedures that are very efficient, but at the fire face where things are still as hot and dusty and dangerous as they ever were, the same people use much the same methods to put out the fire itself.

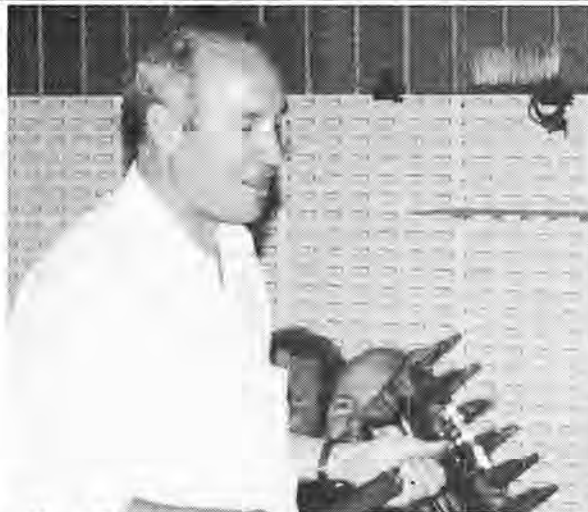
Unfortunately the media rarely comment on these aspects and the unsung heroes seldom get very much thanks for the remarkable job they do.

The long, hot and dry weeks of February and March this year have fully stretched our resources on several occasions and the efficiency of fire attack has drawn compliments from a lot of people in the field, that is, from people who know what it is all about.

The job has been well done and it is recognised by senior staff, even if not by the media and the general public at large.

Congratulations to you all for a job well done.

PETER HEWETT
Director of Forests



Ken Wallace receives the Numbat Award

STAFF NEWS

Appointments

New to the staff are Viona Lawrence, Officer, Collicie; Janet Farr, Research Scientist, Manjimup; Susan Hancock, Landscape Architect, Geraldton.

Don Jennings, Project Leader, Computer Services (Como) transferred to CALM from the Department of Service and Gavin Patterson, Officer, Accounts (Como) transferred from Homeswest.

David Bicknell, Esperance, is on a three-year secondment from the Department of Agriculture.

Promotions

Steve Pasco, Como, to Assistant Financial Systems Officer; Alan Burnett, Como, Assistant Budgeting Officer; Howard Manning, previously at Kirup, to Pemberton, Forester (Operations) and Steve Hopper, Woodvale, to Senior Principal Research Scientist.

Transfers

Gary Hartnett, Forester, from Nannup to Wannon; Phil Spencer, Forest

Ranger, Walpole to Collicie; Wayne Burton, Forest Ranger, Harvey to Albany; Ian Dumbrell, Forest Ranger, Collicie to Busselton; Andrew Darbyshire, Forest Ranger, Margaret River to Walpole; John Carter, Forest Ranger, Jarrahdale to Kirup; Rory Butcher, Forest Ranger, from Busselton to Jarrahdale; Nick Woolfrey, Forest Ranger, from Dwellingup to Grimwade; Neil Burrows, Senior Research Scientist, Manjimup to Woodvale; Martin Scantlebury, Forester, Bunbury to Collicie; Kevin Marshall, District Wildlife Officer, Karratha to Geraldton.

Ian Parker, Graduate Assistant, Planning Branch, is now with the Waterways Commission.

Retirements

Ted Cracknell, District Forester, Wannon left at the end of March after a long association with forestry work. He began with the Forests Department as an overseer some 38 years ago in the Pemberton district.

By STEFAN FRITZ

ON the nights of March 10 and 11 the annual mass spawning of corals was observed on the Ningaloo Reef near Exmouth.

The simultaneous release of vivid pink coral sperm and eggs was observed and photographed during two night dives from the "Edgar Lefroy" by CALM personnel and several interested Exmouth locals.

Brain, staghorn, plate and many other corals could actually be seen releasing their spawn over a period of about one hour — transforming the waters

Spawning of Corals on Ningaloo Reef

into a pinkish soup — a spectacular sight.

Literally thousands of polychaete worms formed a writhing mass as they fed on the spawn.

Attracted to our diving lights, they actually became somewhat of a nuisance as they sought refuge in earholes or any other openings they could find.

Local medical practitioner, Dr Geoff Taylor, (well known for his Whale Shark filming in the area)

filmed the phenomena on both nights and with some luck this footage may be used to interpret the event on AV equipment within the Milyering Visitor Centre in Cape Range National Park.

This year it was predicted that the corals would spawn on March 11, 12 and 13 on Western Australian tropical reefs, such as on the Rowley Shoals and Ningaloo and on March 13, 14 and 15 at the

Abrolhos Islands.

The phenomena generally seems to occur one week after the full moon in March and one hour after sunset — it is thought that the timing is such that it maximises the survival and distribution of the spawn.

It is believed that coral spawning is linked with several other biological events such as the increased presence of Whale Sharks on the Ningaloo Reef for a few weeks afterwards.

Also, it may have some commercial implications to fisheries, in that the spawn uses enormous quantities of the available oxygen and may starve other organisms of it (especially if conditions are not favourable for replenishment of oxygen from the atmosphere).

Last year at Coral Bay there was a massive fatality of fishes coincident with the event.

1988 is a special year for coral spawning.

No, it's not a Bicentennial event, it's just that it occurs twice this year — as it does every three years.

Spawning is due again during the same moon phase on April 10, 11 and 12 at Ningaloo.

MILLION-DOLLAR DAY

By COLLEEN HENRY-HALL

CALM has had a million-dollar day.

The Department recently sent out two invoices for mining compensation which totalled \$1,466,000.

Environmental Protection Manager Frank Batini said it was not often CALM sent out invoices for a million dollars.

The compensation covers 440ha cleared this year to date for mining purposes by one mining company.

This money contributes to the purchase of land with conservation and production values to replace the areas lost through clearing.

The money goes into the capital account, which is used to offset borrowings

in capital used for land purchases.

The principle of compensation for the clearing of CALM lands, especially in forest areas, has been established for many years.

There are 16 companies on CALM's books with compensation agreements, although six of those are not currently operating where they have to pay compensation.

Companies that pay include mining companies, SEC, the Water Authority and local authorities.

The amount they pay ranges from \$1000 to \$3500 a hectare, calculated on four components:

* Additional costs of su-

pervision and management for CALM in the long term;

* Timber values foregone by harvesting trees before the best financial rotation;

* Purchase of alternative lands for timber production or conservation; and

* Improvements required to purchase land, or replanting these lands with commercial species of trees.

The compensation is calculated when the company gets the land lease, and is reviewed periodically.

They must also agree to rehabilitate the land when they are finished with it.

Numbat Award to Ken Wallace

AT a recent Narrogin District social function, the first Narrogin Numbat Award was presented.

The Narrogin Numbat Award is presented for the dingbat of the year, decided by a majority vote.

The trophy was beautifully chromed Rake Hoe, prepared by Pingelly employee Jeff Higgins, with the help of his father.

Regional Manager Ken Wallace was the only qualifier for 1986, having inspired the award's inception.

The story is this: Narrogin District attended a fire in the Westonia Shire for four days, using a comfortable farmhouse for accommodation.

Ken offered to prepare

lunch one of the days and deliver.

The fire situation caused problems on the day and crews eventually received their lunch at about 3pm.

Lunch for each hard-

working person was, wait for it, a warm tomato and some warm buttered bread.

Ken accepted the trophy in the spirit in which it was given. — STEVE GORTON.

• THE siren wasp, *Sirex noctilio*, from southern Europe, is a serious pest of radiata pine.

It has not yet been introduced to WA from the Eastern States, and CALM wants to make sure that if it is, it doesn't become established here.

That means being on the look-out for infestations of the wasp. An information workshop organised by Environmental Protection Branch's Dennis Hilder will train all district and regional forest officers from the Southern, Central, Northern and South Coast Regions in recognising the signs.

Peter Hewett, Paul Jones and Ian Abbott also have contributed to the workshop which is scheduled for late April.

Participants will learn about the wasp, what it does and what it looks like in all its stages.

Cheryl's an Aussie rep.

CALM's Cheryl Waters, Mapping Branch, is one of Australia's representatives in the 1990 World Series Softball competition.

The drafting assistant is undergoing two year's preparation for the Series, which will be held in Normal, Illinois.

At 24, the world-class player says this is what she has been aiming for in her softball career.

A genetic influence could account for Cheryl's

remarkable softball abilities.

Her mother played State softball and so did her sisters.

Cheryl plays first base for the powerful Nedlands Rookies (who have won three premierships in a row) as well as being vice-president for the club.

The effort needed for this level of competition is both physically and mentally gruelling, and there have been times when she



would have liked to pack up her bat.

Cheryl trains and plays six days a week, and participates in the social and fund raising events, which leaves little time for anything else. — DONNA EDGLEY

Croc search

The search for two saltwater crocodiles in the Port Hedland area has been called off though local people have been warned of the danger these animals present and have been asked to maintain a lookout.

CALM Supervising Wildlife Officer Peter Pennings said there had been no reported sightings in the area since November last year, and it was suspected the animals had moved, possibly to one of a number of suitable habitats near Port Hedland.

In July last year Wildlife Officers received two reports of sightings of large saltwater crocodiles, one from Stingray Creek and the other from Turner River.

Peter said a Wildlife Officer and a Fisheries Officer had been continuously involved in trying to capture and remove the animals.

Despite the use of traps and extensive spotlight patrols of mangrove creeks, the animals have avoided capture.

The crocodile traps have been removed.

Peter said that local residents have been told that there was a possibility that the crocodiles were still in the vicinity and that they were considered to be extremely dangerous.



CARMEL STANILAND

New Education Officer at Como

YEARS of teaching experience and a lifelong love of the bush have led Carmel Staniland to a position with CALM as Education Officer.

Carmel replaces Sue Worley, who has returned to teaching.

As Education Officer, Carmel will liaise with school and community groups and the departmental field officers to provide education material and opportunities.

Carmel earned degrees in geography and education at UWA before becoming a teacher.

She has taught in Perth and country areas, in government and private schools, as well as in Japan, for a number of years.

Carmel once headed the geography department of a private ladies' college.

After returning from a two-year cycle tour recently, Carmel took up full-

time studies for a Masters degree in Natural Resource Management at UWA.

She said the course exposed her to a range of local environmental issues such as bauxite mining, salinity and logging.

Although she didn't know it at the time, the course was also giving her a strong land management background for the CALM position.

"This job is an extension of everything I've been interested in," she said.

"There is a challenge to remain objective, to be able to discuss and explore a range of issues while providing information and putting forth CALM's ideas."

Carmel would like to hear from any CALM officers with ideas about education activities, particularly in conservation, ecology and land management.

She is based at Como and is on Ext. 285.

DATE PALMS PRODUCE CROP

PLANTING of date palms first began in the Karratha arboretum in 1983.

Among the first plants on trial were seedling date palms gathered from superior overseas stock.

These plants were nurtured by Pat Ryan at Broome Nursery then planted at Karratha.

Some of these palms have produced fruit for the past two years, but it has been eaten by eurus and corellas.

This year the fruit was covered by bird wire baskets and the yield has been excellent, with some palms producing up to 15kg of dried fruit.

Date palms need heavy watering to produce fruit, so they are reticulated with sewage effluent.

The dry summer this year at Karratha has suited the ripening of fruit without damage from rain.

There seems little doubt that the north west of Western Australia

could produce excellent quality dates.

Imported dates in Karratha supermarkets sell for \$15 a kilogram.

It is ironical that date palms are a weed species in Millstream National Park.

Assistance from Frank Batini's Environmental Protection Branch has enabled the Rangers to remove date palms from the banks of the Fortescue River where they are competing with native vegetation.



New computers set to role

WITH the final acceptance testing of two new computers this week CALM moves into a new era of information management.

Trevor Morgan and staff of the computer services division have been wrestling with the installation of a new Concurrent 3280 (the most powerful computer in the Concurrent line) to replace the old 3240, and a new Intervax 250 system.

The new Concurrent will be a great relief to many users on the network who have been frustrated by the slow response time or even inability to use it at all during busy periods (Dave Ward please note).

The VAX, which is made by Intergraph but

based on a DEC VAX unit, is the core of two major initiatives for CALM: a move into operational use of geographic information systems and the first stage of a rationalisation programme which will eventually see CALM become an all DEC mainframe system.

The VAX 250 will be upgraded to a MICROVAX III in June or July this year.

The VAX will be used initially for Intergraph, CALMIS, and the new ARC/INFO systems and

for research computing.

As from now we will withdraw from use of the WARCC CYBER except for some minor specialised tasks and from the WALIS VAX except for accessing the DOLA cadastral database.

As soon as the VAX upgrade takes place we will commence to shift other systems, such as RMS, onto the VAX.

All new system develop-

ment, apart from the pine logging system, will take place in a VAX environment.

These developments cap a long period of struggle to provide proper computing facilities for the Department.

After some years of stagnation it is a source of great satisfaction to staff involved in information management to see us once again on the move.

IFA commemorates Forestry Day

By PAUL JONES

THE W.A. Division of the IFA commemorated World Forestry Day for 1988 with a field trip to look at multiple use in the pinaster forests of Gnangara.

World Forestry Day is celebrated on March 21 each year, the first day of spring in the Northern Hemisphere.

The day has been celebrated in Australia each year since its adoption by the Australian Forestry Council in 1973, although in Western Australia, Arbor Day has a much greater exposure.

The all-day trip on Saturday, March 19, attended by 20 members of the Institute was led by W.A. Division Chairman Dr Frank McKinnell, Divisional Manager Technical Services for CALM.

The purpose of the World Forestry Day is to focus on the value of forests to the community and where appropriate to publicise that to build community awareness.

The thrust of the day is

aimed at countries where large areas of forest are being cleared.

Dr McKinnell said: "Loss of forests is not a problem in Western Australia because public forests all have security of tenure and the level of appreciation of forests in the community is good."

"Disputes over forests in W.A. tend to be over their use and in this context the

Eyre Bird Observatory . . .

NATURE LOVERS' OASIS

By BRYCE WELLS

SITUATED in the Nuytsland Nature Reserve, 48km SSE of Cocklebiddy Roadhouse, Eyre Bird Observatory (EBO) lies between the spectacular dunes that fringe Kanidal Beach and the scarp about 10km north.

Coming from the Eyre Highway you must almost literally leap from the more arid Hampton Tableland into the thick mallee woodlands of the Roe Plain.

The transition, for people who have been staring at the sparse plains long the highway for hours, is breathtaking.

The vegetation, which is surprisingly rich, causes even the experts some difficulty because many of the species seem to be transitional, and don't quite fit into the accepted keys.

However, the four most accepted and common eucalypts are *E. diversifolia*, *E. angulosa*, *E. rugosa* and *E. gracilis*.

These mallees, flowering as they do in sequence from early winter and early summer, provide the nourishment necessary to sustain the large number of honeyeaters (15 species have been recorded) that are either resident or regular nomadic visitors.

Their flowers also form the main diet along with the insects they attract, of the large population of Western Pygmy Possums that are being studied in the area.

Eyre has a bird list well in excess of 200 species.

This is because the area contains a variety of habitats ranging from the mallee, the open plains above the scarp, the wide expanses of Kanidal Beach and the cliffs of Twilight Cove to the Salt Bush and Blue Bush expanses of the

Damper Flats east of the Observatory.

Quite apart from its appeal as a place of peaceful serenity and its richness of habitats, Eyre has a built-in historical component.

It became known to Europeans in 1841 when the explorer Edward John Eyre found a plentiful supply of fresh water in the dunes.

They are still called Eyre's Sandpatch.

John Forrest also used the area in the 1870's.

Because of the water it became one of the sites for a repeater station when the overland telegraph became a reality in 1877.

The present house, a lovely building of limestone and iron was built to house the Station Master, William 'Iron Man' Graham and his large family in 1897.

After its closure in 1927 the station sold for 30 pounds and, partially gutted, lay abandoned until 1977 when the RAOU and the Post Office Historical Society restored it with financial assistance from Fisheries and Wildlife.

This is Eyre's 10th year as an Observatory, a place geared to research and environmental education.

Bird banding has been a key feature of the ongoing programme, and much of the information we have, Australia wide, about that rather mysterious nomad, the White-

fronted Honeyeater had its origin at EBO.

Valuable work has also been done on the White-browed Scrubwren, the Southern Scrub-robin and the Welcome Swallow.

Currently there is an ongoing programme studying the movements, breeding biology and habits of the Chocolate-wattled Bat and a highly significant experiment using nest-boxes with the Western Pygmy Possum.

Up to 13 courses, each of six days duration, are held each year on subjects ranging from dune stabilisation through bird, mammal, insect and botany courses, to photography and health.

Whales feature prominently also.

In between the courses visitors come to stay for periods ranging from one night to over a week.

Dune stabilisation takes place in January of each year.

There is some work done on an ad hoc basis throughout the rest of the year.

Spinifex hirsuta, and latterly, *Euphorbia* are planted under fishing nets or seaweed.

The *Euphorbia* has a high germination rate while *Spinifex* is only about 10 percent.

The *Spinifex*, however, is by far the most successful in stabilising dune movement.

The sole object of the exercise is to save the buildings from being devoured by the shifting sand dunes.

From page 1

The fire, which cost \$80,000 to suppress burnt out about 450ha of State forest.

Executive Director, Syd Shea, said the expertise and fire fighting skill of the Department's staff prevented these dangerous fires from causing more damage at a far greater cost to the public.

He thanked all those involved for their efforts in very severe and dangerous fire fighting conditions.

Dr Shea also thanked the Bush Fires Brigade for their assistance in suppressing several of these fires.

(In all Department staff fought more than 120 other fires during the same period as these five major fires.)

EXEC. DIRECTOR VISITS AMERICA

CALM's Executive Director, Dr Syd Shea, accompanied the Minister for Conservation and Land Management, Barry Hodge, on a two-week inspection tour of selected American forestry and paper pulp projects and national park operations.

In Brazil, Dr Shea inspected the Aracruz Cellulose Company's paper operations at Aracruz.

The company is a world leader in fine paper production, operating one of the largest and most modern eucalypt paper pulp mills in the world.

CALM has identified an expanding role for Western Australia in providing high quality writing paper for expanding world markets from eucalypt paper pulp.

Dr Shea also inspected tourist operations at some of the busiest and most important national parks in North and South America.

They were the Iguazu National Park on the Border of Brazil and Argentina and the Yosemite and Grand Canyon National Parks in the United States.

SHELTERBELT PROJECT GETS FUNDS

By RICHARD MOORE

THE agroforestry research project, coordinated from the research station at Busselton, has had \$140,000 approved from the National Soil Conservation Program for a three-year research project at Esperance.

The funds will greatly expand CALM's involvement with the Department of Agriculture and farmers to develop farming systems with trees to reduce land

degradation on the South Coast.

The South Coastal region of WA is recognised as an environment prone to severe wind erosion and threatened with a potentially serious salinity problem.

Trees are likely to be a key component in land care for this region.

Trees can slow wind thereby preventing erosion, help to control salinity by increasing water use, pro-

vide shelter for crops and stock, and they can provide returns from products such as timber.

This project aims to develop and demonstrate a management system using trees on farms (mainly shelterbelts) which will prevent wind erosion and control salinity.

Three steps have been identified which must be taken to bring about widespread implementation of shelterbelts:

- collect regional data on shelter effects;

- adapt management practices;

- hold field days etc, to disseminate information.

The new funds enable a project officer plus an assistant to be employed full time.

David Bicknell, who has been involved in CALM Department of Agriculture agroforestry trials near Manjimup and who has studied shelterbelts in New Zealand, has been seconded to CALM for the project.



ONE of the most important roles for the Ranger at Millstream is to monitor the spring flows and water levels in the riverine wetlands.

The wetland environment contains many unique plants and animals.

The aquifer which feeds this area, is the same one which supplies water to the Pilbara towns of Wickham, Roe-

Water monitoring at Millstream

bourne, Karratha and Dampier.

Each week, water levels, samples and temperatures are read to ensure base figures are

maintained.

If pools fall below a certain point, the Water Authority are requested to start supplementation pumps to ensure en-

vironmental requirements are met.

Seen here doing the weekly water monitoring are Noel Nannup, Ranger in Charge, with Forester Russell Bone and son Craig.

Russell has recently transferred from Dwellingup and is getting first hand knowledge of activities in Millstream National Park.

MUNDARING FUN, FIELD DAY

By RAE BURROWS

MUNDARING District participated for the second year at the Mundaring Field and Fun Day, held at the Mundaring Sports and Recreation Ground on Sunday, March 13.

Although the preparation for, as well as the actual day, involved a great deal of extra workload and effort, all staff who participated both on the day, and in preparation, agreed that it was a real success.

CALM's public image was most definitely enhanced, they felt.

Feedback from the day will tell the fuller story, but initial reaction from the public with whom we made contact was excellent.

Activities at Mundaring's stand included various "environmental" stations where the public could get an appreciation of the varying "feels" of the forest — feathers, fur, leaves, gravel, sand, rough, smooth, via "look and feel" boxes.

Activity stations included making gumnut people

and creatures, some of which were most imaginative. Face painting was also popular.

A gumleaf whistling competition was a great success and included quite a few oldtimers who showed the young ones a thing or two.

A chainsaw sculpturing display created a great deal of interest; pieces included armchairs, chairs and tables, birds and animals.

The 'Pied Piper' of our display was 'Kevin the Kangaroo' who enticed the children over to the CALM display.

National Park Rangers presented a photographic display depicting the construction of and notable events during the history of the railway line through John Forrest National Park, and gave away "na-

tive gardens" — a potted Marri with seedling scrubs.

New ground was broken with bus tours through the forest area around Greystones Plantation, with the passengers walking among the 66-year-old giants, and later talking to pilots and inspecting a spotter plane on the ground at the Mundaring strip.

We have been requested to take the activity stations to the Darlington Arts Festival.

An estimated 3,000 people passed through the stand, about 200 "native gardens" were given away, and 85 took the forest bus tour.

WORK on construction of the Milyering Visitor Centre is due for completion at the end of April.

Situated in Cape Range National Park well away from the nearest mains electricity and water supplies, construction and design has been a challenge from the word "go".

Eighteen inch thick rammed earth walls designed to keep the building cool and which blend in perfectly with the surrounding landscape, have been erected, together with

a roof system which incorporates a colonial verandah style and a novel ventilation system.

Work is currently in progress for completion of the Clivus Malmstream self composting toilets, solar power plant and the reticulation of locally derived bore water.

Concurrent works on an adjacent site for construction of a residence to house our new Marine Park Officer, Sue Osbourne, who will be managing the centre, is due for completion at the end of April also.

As you read this, Sue is probably very busy with Gil Field, Cliff Winfield and other information staff, developing displays and interpretive materials to be installed within the Centre after the construction contractors have left.

The centre is to be officially opened in September this year as part of Australia's Bicentennial celebrations and it is hoped that the Prime Minister, Mr Hawke, may attend to cut the 'ceremonial ribbon'. —

STEFAN FRITZ.

Published

Notice of the change in purpose was published in the Government Gazette of 19 February 1988.

Green Island is now an A class nature reserve vested in the NP & NCA and managed by CALM.

A win for the pelicans!

Perth — a twitchers' paradise

By JOHN BLYTH

"TWITCHER — one who will climb the highest mountain, tramp the darkest jungle, or ford the wildest river (binoculars held safely aloft) to tick a new species of bird that he or she has not seen before."

The term comes from the tendency of twitchers, particularly when in the field with similarly afflicted people, to exhibit various characteristic mannerisms — eyes darting in all directions, ears straining for the faintest suggestion of a different bird call, and above all, alert to the movements of those around them, in case someone else should see something new and exciting first!

Most birdwatchers suffer to a great or lesser extent from the twitcher's disease.

Much of the excitement for any naturalist, birdwatchers included, comes from seeing something special; a rare or unusual species, one well outside its normal range, or a breeding record unusual in time or place.

The advantages of birdwatching as an amateur interest are many.

First, birds are beautiful to look at — what artist can match the dazzling blue of a male Splendid Wren in full nuptial plumage, or the brilliant yet delicate combination of colours in the aptly named Rainbow Bee-eater?

Secondly, many birds are common and obvious, mostly active during the day, and there is a limited number of species (about 720 in Australia as a whole).

Thus, any interested person has little trouble in eventually being able to recognise all species likely to occur in their area.

Thirdly, although birds in Australia are well studied and many excellent identification guides are available, there is still much to be learned about them, and amateurs can contribute useful observations.

The Royal Australasian Ornithologists Union (RAOU) has a network of hundreds of

volunteers, who are providing invaluable information to assist CALM in our management of birds and their habitats.

Finally, and perhaps most important, a reasonable knowledge and appreciation of birds (plus a pair of inexpensive binoculars) adds enormously to the interest of any day in the bush or by the shore — or even in your backyard.

Perth is remarkably rich in places to observe birds.

The best starting point is one of Perth's many wetlands.

For instance, Herdsman Lake, only 7km from the city centre, has a bird list of well of 80 species, many of which can be watched in their natural behaviour at very close range.

A short visit to Herdsman should yield a list of 25 or more native species, including at least eight types of duck.

Incidentally, Herdsman Lake boasts an excellent wildlife centre, managed by the Gould League, and with many fascinating displays illustrating the complexity and interest of the lake's ecosystem.

The centre is open every day, and staffed at weekends by volunteers (mainly amateur birdwatchers!).

Lakes Joondalup and Bibra, and many others support a similar abundance and diversity of water birds.

Anyone seeking a somewhat greater challenge could try identifying waders at Alfred Cove which supports a remarkably rich bird fauna especially in summer.

The waders, of which more than thirty species have been recorded, are, perhaps, the most interesting.

Often confusingly alike at first sighting, some of the trans-equatorial migrants travel more than 10,000km to get to Australia, and the same distance to return to their breed-

ing grounds around the edge of the Arctic Circle.

Alfred Cove is one of the most important feeding sites in the southwest for waders, many of which are the subject of international agreements between Australia and China and Japan.

If you would like to combine observations of bush birds and water birds, Thomsons Lake is hard to beat.

This outstanding nature reserve is about half an hour's drive south of the city.

However, when standing quietly in the shallows with dense fringing rushes and a healthy woodland surround, the feeling is one of being miles from anywhere.

Even the very shyest and least observed species, such as crakes and rails, can be observed closely on almost any summer evening while the lake holds water.

The wetlands mentioned above are (or are about to come) reserves managed by CALM.

There are many other wetlands, and other areas of bush such as Kings Park or Bold Park, where Perth's rich and interesting bird fauna can be studied.

For those seeking more information about places around Perth to watch birds, or to pursue any other natural history interest, an excellent little book has recently been published by the WA Naturalists Club.

It is titled "A Naturalist's Guide to Perth", and its senior author is CALM's own Penny Hussey who is Executive Officer of the Roadside Conservation Committee.

"A Naturalist's Guide" discusses 24 places around Perth and gives enough background about their natural history to guarantee natural historians many fascinating weekends.

Park work appeals to job seekers

Counting job applications may not be the usual method of gauging public interest.

Nevertheless, 1,500 responses to a trainee park ranger advertisement recently says quite a bit about our community's regard for its National Parks.

There were 733,700 seasonally adjusted persons either employed or willing to work in the State at the time of whom one in every 500 on average answered the ad.

When it came to the crunch about two thirds of the 1,500 had second thoughts and didn't continue past round one.

Nevertheless, the 547 written applications finally received must be close on a record.

The application standard was high as a good few post-high-school qualifications included.

Why so? Not simply because of the country's high unemployment rate since roughly 70 percent of the applicants had jobs.

And hardly for financial reasons given the trainee ranger's starting rate of pay.

Perhaps the gloomy world situation and expanding crime rate?

More likely, though, it is because there are hundreds of clerks in offices and workers on assembly lines who dream of escaping to an open air bush life-style. Now, surely the Depart-

ment could utilise such public interest.

For starters the names of the 1,500 could be added to the mailing lists that advise the public of the "Gold Star Landscape" and similar promotions.

Volunteer work groups also come to mind and surely the facts and figures could be used politically to prize out more resources for the parks.

Another thing, our present National Park Rangers should think themselves lucky to have jobs so sought after within the community. There are hundreds who would swap places with them tomorrow. — DAVID GREENHILL.

PELICAN POWER

IN recent times we have been bombarded with sports news about the exploits of the Eagles and the Wildcats.

This good news item is about the Albany Pelicans.

Recognition

The story dates back to 1974 when the Conservation Through Reserves Committee recommended that the purpose of Green Island, in Oyster Harbour, Albany, be changed from "recreation" to "conservation of flora and fauna", in recognition of its value as an important breeding site for seabirds, especially Silver Gulls.

This recommendation was subsequently endorsed by the EPA in its 1976 Sys-

tem Two Report.

However, when approached in 1978, the local authority objected to the change in purpose and there the matter rested until 1985.

In mid 1985 a strange thing happened: pelicans established a breeding colony on Green Island.

This was a notable event, as the nearest known pelican breeding site in WA was in Shark Bay, 1200km to the north.

Furthermore there was no prior record of pelicans ever breeding in the Albany area.

Breeding again took place in 1986, with twice the number of birds compared to the year before, and again in 1987.

The pelican breeding