



Testing time for candidates



GEOFF ROLAND is one of 12 candidates offered a CALM cadetship after completing the one-week selection course, which included pruning and felling pines. Story, page 2.

WORKSHOP ATTRACTS PUBLIC INTEREST

By COLLEEN HENRY-HALL

A WILDFLOWER enthusiast uses a national park differently than does a four-wheel drive enthusiast, and such varied recreation needs pose challenges to land management.

A one-day workshop held recently by CALM enabled about 70 people from various recreation groups to discuss the management of national parks, nature reserves and State forest in the shires of Swan, Kalamunda and Mundaring.

Ian Herford, Parks and Reserves Officer for the Northern Forest Region and chairman of the meeting, said it gave groups using land in the Mundaring District a chance to communicate with each other and to make suggestions for land management.

He said most people attending the workshop agreed there is a need for increased public awareness and proper land management.

In the morning session, District Manager Tony Raven explained recreation patterns in the District; Wayne Schmidt, manager recreation and landscape branch, spoke on resolving conflict between recreation and other land uses; and Jim Sharp, scientific adviser, spoke on resolving conflict between recreation users.

Wayne said some of the conflicts between recreation and other land uses that he has identified are competition for physical resources, conflict between use or non-use of particular areas and a conflict of funding were maintaining "old" programmes gives way to developing "new" ones.

Wayne outlined some ways conflict could be resolved through design and planning and the importance of communication between the public and CALM for planning.

Jim said resolving conflict between groups of recreators could be achieved through design of an area, restricting access to different places or different times, and education.

Representatives of recreation groups outlined their needs and concerns in four broad areas: equestrian, motorised, nature-based and organised outdoor recreation.

Participants formed small groups in the after-

noon session to consider a number of questions concerning management priorities and appropriate recreational activities for national parks, nature reserves and State forest in the District.

A similar workshop, coordinated by Drew Haswell, regional leader planning, will be held early this year on protection of national parks, nature reserves and State forest within the District.

Ian said the points of view expressed will be taken into account in a regional strategy plan due at the end of 1986 and will also be considered for inclusion in the District Recreation Plan up for review shortly.

Pole life span study

THE State Energy Commission is investigating ways of reinforcing power poles below ground level to extend their usefulness.

If perfected and used by the SEC, the programme also could take pressure off CALM to supply the SEC with long poles, a demand the Department is finding harder to meet.

"We've recently been trying to alter the balance of pole production to something more in line with what is out in the forest" said John Sclater, inspector utilisation hardwood.

In the trial, a truck and machinery developed by Austpole, a private company based in Victoria, slips a steel sleeve over the damaged part of the pole.

The pole is lifted out of the ground about two feet while the sleeve of galvanised metal, with its base filled with concrete or a wooden insert, is slipped over the bottom of the pole.

For CALM, the attraction of the operation lies in the possibility of lengthening poles that are too short by joining two pieces of wood together, such as karri log at the top and treated pine log at the bottom.

The SEC wants poles of not less than 12.5m while CALM's supply lies in the 9.5m range.

That gap of three metres would be corrected by the use of composite poles, and a base of treated pine or concrete would decrease fungal rot and termites.

The SEC contracted the replacement of 50 poles to Austpole originally, but the number has since been increased.

The programme continues, with informal involvement by CALM in the replacement of poles in the metropolitan area.

Penguins island retreat

Penguin Island, a 13ha off the coast of Rockingham, is home to a number of animal species, and perhaps most importantly, is a nesting spot for little or fairy penguins.

Management of the island has been difficult in past years because of a lack of supervision at weekends and holidays when visitors are most numerous.

For the day visitor, it is hard to detect the presence of the penguins, when they nest in spring.

During the day, males and females take turns incubating a single egg in a nest under the low-lying island vegetation.

But at night, penguins head to the sea in search of food and they can be seen entering and leaving the water.

Proper management of the island would include

protecting the vegetation areas penguins and other birds use for nesting sites.

The bridled tern also uses the island to nest.

Metropolitan Park Ranger Jim Maher would like to see signs erected on the island informing people to keep to marked walkways, which would keep birdlife out of danger and also enable dune areas to be revegetated.

Jim said the island also needs a monitoring project to discover more about birdlife using the island.

At present, Jim has spotted 34 bird species and seven animal species on the island.

THE PRESERVATION of Penguin Island's sand dunes, birdlife and vegetation will be undertaken with a Community Employment Programme grant of \$78,996.

The project will employ six people for 26 weeks, and will include the construction of post railing and steps to prevent disturbance of fragile vegetation and birdlife.

Post railing will also be put around penguin nesting areas and management and environment information signs will be erected.

Also included in the project is revegetation of some areas.



ROSS McDOUGALL (left), National Park Ranger, District Manager **George Peet** (centre) and **Charles Eadon-Clarke**, Executive Director of the Swan Valley Tourism Council (right) discuss the morning's proceedings at the recreation workshop.

LAND PURCHASE PLAN BY DEPT.

CALM is negotiating to buy nine parcels of land as new or additions to existing nature reserves or national parks.

Land purchases are decided by the Conservation Lands Acquisition Committee, an internal committee which replaces the former Parks and Reserves Committee.

The properties range from 2ha, which will increase Benger Swamp nature reserve, to a 202ha freehold area with its associated 3200ha pastoral lease on the south coast.

That area of 3402ha represents a current private property enclave in the D'Entrecasteaux National Park and its removal will assist management of the Park.

Many of the properties will increase the viability and biological and botanical diversity of existing nature reserves and national parks.

Committee members are: Alex Errington, chairman; Barry Wilson, Director of Nature Conservation; Chris Haynes, Director of National Parks; Peter Hewett, Director of Forests; Andrew Burbidge, Principal Research Officer; David Hampton, Manager Wildlife and Land Administration branch; and Robert Powell, senior clerk, reserves, who serves as secretary.

Also on the Committee are representatives of the Lands and Surveys Department and the Valuer General's office.

The Committee will meet quarterly to plan future acquisitions and monitor and assess requests and suggested acquisitions.

The brief of the Committee includes "looking at the general question of acquiring conservation lands throughout the State as a result of various land reports," Mr Errington said.



BRIDLED TERNS on Penguin Island guard their nest vigilantly from seagulls



SENIOR RANGER Jim Maher inspects a Little Penguin nesting site.



AS THE first policy director to be invited to prepare his chapter for this section of CALM News, I have the advantage of there being no precedent against which to measure my efforts, and the disadvantage of not being sure how to approach the task.

The Director of Forests, the first in the history of Western Australia, follows a long line of Conservators of Forests, the most recent incumbent being Bruce Beggs, now Chairman of the Lands and Forest Commission.

The role of the Director, is however, vastly different from that of Conservator, principally in that there is no direct link with operations and administration in the field.

Along with the Director of National Parks and Director of Nature Conservation, the Director of Forests' primary concerns are those of policy.

The Policy Directorate includes the Director of Research and Planning, The General Manager and the Executive Director.

It meets on a regular basis, usually twice each month, mainly to thrash out ideas on policy development.

From a personal viewpoint, the position of the Director is as challenging as it is new.

As some staff will know, my involvement as a forester with the wood-using industry virtually ceased with the creation of Extension Branch in 1973 and recommenced in a minor way in 1983.

A large part, probably more than 60 percent of my present job, is concerned with wood production.

I had lost touch with many of the timber companies and their personnel didn't know me, so both parties are at the start of a new learning curve.

I have a great advantage over Barry Wilson and Chris Haynes in having access to experienced staff at all levels in the forestry operations of CALM, many of whom I have known and worked with for 30 years.

Barry and Chris have a different range of contacts and have spent a lot of time getting to know who is who, and what is what.

Within the Directorate, there is also a learning process taking place.

The group dynamics are slowly developing as the Directors, Managers and Executive Director get to know each others' modus operandi.

Even though the ex-Forests Department group have known each other for a number of years, they are negotiating from a new stand point and in a new administrative environment.

I like to think that the group is shaping up pretty well, and that, in policy making in particular, we are beginning to make some real progress.

Time will tell, and possibly so will Barry and Chris when they get the opportunity to contribute from their desks.

A Happy and Prosperous New Year to you all.
PETER HEWETT — DIRECTOR OF FORESTS

Facelift for the Bibbulmun Track

The Bibbulmun Track is well known to many Western Australians and, indeed, to many people outside the State and Australia.

The concept of a long distance walking track in WA forests was suggested in July 1972.

Initially, the planning was for a track from Lancelin to Albany, but this was found to be impracticable.

Most of the early planning was done by the former head of the Information Branch, Peter Hewett. Peter coordinated the efforts of many State Forest districts to have a marked track in the field by March 1973.

The original track, some 500k in length, stretched from Kalamunda to the Boora fire lookout tree.

Recently the track was extended 50km to reach the old Shannon townsite.

The track passes through some of the most beautiful landscapes in the South West.

It also takes bushwalkers through areas cleared for mining and where other management issues have resulted in sections aligned along bitumen roads.

(In a recent survey of bushwalkers along the Bibbulmun Track, it was called the "Bitumen Track" by someone who just completed a section of the track along Nettleton Road, Jarrahdale.

The idea for the track's name came from Len Talbot, now at Mundaring.

Bibbulmun was the name of the now extinct Aboriginal group that inhabited the South Western corner of the State.

Although the Bibbulmun people didn't necessarily use any of the tracks which now make up the Bibbulmun Track, the track has been named in recognition of their importance in the heritage of the South West.

Changes in the original track due to activities such as mining and road construction, led to the production of an amended guidebook in 1985.

By officers from the Recreation and Landscape Branch



The track will avoid areas where bushwalking conflicts with other land management strategies, which means much of the track must be realigned.

The new track will have a number of campsites within a day's walk of each other and the entire track will be described in a new-look guidebook.

In 1981 the estimated annual use was 5000 people.

A recent survey has shown that only about five percent of bushwalkers walk for a period longer than one week or complete the whole distance.

Most people seem to spend one to two days trekking.

Ten to 20-year-olds appear to be the largest group of track walkers, accounting for nearly 50 per cent of all walkers.

Many of these bushwalkers seem to fit into the "press-gang" category of school groups.

We found gauging the most popular sections of the track a little difficult.

Some recreational officers have been "over zealous" in distributing and collecting survey questionnaires from bushwalkers along the track in their districts, which inflated the values of use in some areas.

We have determined that circuit routes are popular and perhaps more are required.

At present there are seven circuit routes ranging in length from 9 to 70km.

Most of the walkers surveyed (almost 80 per cent) liked to camp in the forest while the remainder liked to stay in youth hostels, caravan parks or with friends.

Along the new alignment, within a day's walk of each other, "primitive" campsites will be constructed.

Leaving Kalamunda, the new Bibbulmun alignment will be unaltered until Mt Gungin Fire Tower where the track heads east and into disease risk area (DRA).

DRA is less disturbed by dieback, dam and road construction, mining and logging, in contrast to areas of State forest further to the west.

Where the track is likely to be disturbed by future operations such as logging, buffers will be placed either side of the track to minimise the visual impact as well as keeping bushwalkers' safety in mind.

Quarantine procedures will provide us with the better grounds for excluding trail bikes and horses from the track.

Water is often a problem to the bushwalker — especially in the northern areas, with creeks drying up in summer.

Campsites would hopefully be placed close to water without being too close to have any bad effects on water quality.

Another area of interest is the proposal to construct underground caches or stores where bushwalkers can stow supplies in advance when making long journeys.

As with so many of CALM's activities, dieback plays an important part in the planning.

There is, within the forest, areas of rare and endangered vegetation that are at risk of being exterminated by the introduction of Phytophthora.

Evidence from Mount Cook in the Monadnocks Reserve indicates the potential for bush walking to spread the fungus.

The new alignment will sacrifice the scenic beauty of ridge walking in order to minimise the spread of Phytophthora.

"Hygienic" routes to spectacular views will be considered if available.

DIBBLER POPULATION RARE FIND

By PHIL FULLER and ANDREW BURBIDGE

A JOINT CALM Wildlife Research, Planning and Wildlife Protection team had no idea they would find something as interesting as a Dibbler population while collecting information for a technical report and management plan on the islands between Lancelin and Dongara.

On October 31, while on the 25ha Boullanger Island, about 1km off Island Point at Jurien Bay, Phil Fuller saw tracks in sand which were larger than the small dunnarts and house mice known to be on the island.

The tracks were still visible shortly afterwards when he returned to the site with other staff but soon disappeared; they had only been visible because of overnight dewfall.

A month later we returned to Boullanger Island with 18 Elliott mammal traps (all that could be located at the Wildlife Research Centre at the time) and these were set on December 3.

The next morning Greg Keighery and Phil checked some of the traps while Sue Moore and Andrew Williams checked the rest.

The first two traps had captured house mice but the third had a larger animal in it.

It took them a few moments to realise that it was a Dibbler (*Parantechinus apicalis*) since no-one had expected anything so interesting.

On December 10 we returned to the island with Sue Moore, Andrew Wil-

liams, Geoff Hanley and Don Noble.

This time we had 158 Elliott traps, some sent down from the Karratha office and some lent by the W.A. Museum.

We also set five pit-fence traplines.

The next day most of the team had work to do on islands near Cervantes so Andrew Burbidge travelled to Boullanger Island on his own, courtesy of the Fisheries Department.



The catch for the day was an amazing 89 House Mice, five dunnarts (*Sminthopsis* sp. probably *griseoventer*) and 15 Dibblers.

Over the next two nights we caught a further 18 Dibblers, plus two recaptures.

Twelve of these were on Whitlock Island (5.4ha) which is joined to Boullanger by a sand bar at very low tides.

We also trapped on Favourite Island (3.0ha) and Escape Island (10.5ha) but did not catch anything there although small mam-

mal tracks about the size of a mouse were seen on Escape Island.

The discovery of the Dibbler on Boullanger and Whitlock Islands is great news for its long-term conservation.

Historically many medium-sized mammals have declined on the Australian mainland and some species survive today only on islands.

If the Jurien Bay Islands are managed to prevent environmental problems like the introduction of cats or rats, the survival of the Dibbler seems assured.



This female Dibbler was the cause of much excitement when it was captured on Boullanger Island in Jurien Bay. The Dibbler's presence was unexpected, but welcome, news to CALM's wildlife researchers because its isolated island habitat improves its chances of conservation. Photograph by Babs and Bert Wells.

Millstream Check

The Millstream aquifer will continue to be the major water source for developing towns in the Roebourne Shire in the Pilbara, despite the construction of the Harding Dam.

The Millstream aquifer is also the lifeblood of a unique aquatic environment adjacent to the Fortescue River in the Millstream/Chichester National Park.

Any reduction in the aquifer level by pumping has a corresponding effect in the amount of water which seeps into the Park.

National Park Rangers measure any changes on a weekly basis within the Park boundaries. If a deterioration in spring flows or vegetative health is apparent, a request is made to W.A. Water Authority for an increase in supplementation pumping from specially made bores.



ANDREW HUNTER, left, and Sean Hazelden saw a pine tree as part of the cadet selection course. Both were offered a CALM cadetship.

CADET SELECTION

CALM FIELD officer work is so varied and demanding that it is not easy to find people capable of handling all its different aspects.

To help identify those people, CALM puts potential field officer cadets through a week of practical work.

The cadet selection course, run at the Field Cadet School in Dwellingup, was completed recently by 32 short-listed candidates. Twelve were chosen as cadets in CALM's two-year training course.

The course participants were chosen from 180 applicants.

The CALM selection course is one of the few such courses in the State, if not in Australia, according to Frank Pridham, regional forester, training.

In one week, the candidates were put through a rigorous routine including selecting, pruning and thinning pines and attending lectures on material they were afterwards tested on.

Frank stressed that the pine operation was not an end in itself, but rather a vehicle to help identify the best cadet material.

"While here, they had to get up early, do their required duties, work in the bush and live in these conditions," Frank said.

"It's not just a way for the Department

to choose the best cadets, however.

"It also enables the candidates to determine if they like doing this sort of work."

The practical work focuses on forestry because the school has traditionally been the training grounds for forestry cadets and has access to pine plots.

But with the amalgamation, moves are being made to broaden the training of cadets to include wildlife and national park field officer duties.

"We're looking ahead to producing field officers with a good solid conservation and land management base," Frank said.

"When a cadet finishes training, he or she will be a technician, a supervisor and a junior manager."

The selection course focuses not only on ability to do specific tasks, but the ability to work with other people, to follow directions and to enjoy the work.

Frank helped develop the cadet selection course when it became obvious that the standard interview process would not identify the person with the best qualifications for the field officer cadetship.

"We use selection by performance using job-related tasks to establish certain criteria which we think are basic attributes of our staff," Frank explained.

Joe leaves envious record

DEVELOPMENT of a vegetation classification system as a basis for land management is the accomplishment that heads the list of credits to retiring CALM Research Director Joe Havel during his 20 years with the Department.

That list also would include the development of a high-quality research branch, in terms of the research team and their subjects.

Dr Syd Shea, once one of those researchers and now Executive Director, paid tribute to Mr Havel following the 1985 Production and Protection Research Conference by saying: "It is a rare person who can combine high morals and principles with practical skills like doing good research and working well with people, and Joe is one of them."

Joe has "been in forestry-related things since arriving in Australia in 1948" when he cleaned and stoked bush locomotives in Jarrahdale.

The years since then have seen him in many places and many positions, during which he studied and completed two university degrees.

In the 1950s, Joe joined the Department of Territories and headed to New Guinea to work in forestry and "do just

about anything", often including medical work and carpentry.

Over the years 1961-1965, Joe set up the Papua New Guinea Forest College to train the island's native inhabitants to manage their forests.

He began work for the WA Forests Department in 1965 and was soon launched into what would lead to classifying the vegetation of the Swan coastal plain.



Joe Havel

"The Department wanted to know the feasibility of planting pine on areas outside Gnangara," he said.

"We wanted to know where to plant pines with a reasonable degree of certainty," he explained so he set to helping find some way to accurately classify and map the area using native vegetation as the indicator of growing conditions.

Joe tackled a similar but larger task soon after by classifying and mapping the northern jarrah forest.

His vegetation classification system was put to use providing some hard data for decisions involving multiple land use planning.

In his development of the research branch, which he has headed as chief of division, and more recently, director, since 1978, Joe has tried to develop a multifaceted research team to service existing needs of the Department and to anticipate future needs.

In his years in research, he has seen the emphasis of his work broaden from

timber production to include jarrah dieback, hydrology, flora and fauna and conservation. Throughout it has been a continuous juggle of resources, he said.

On his retiring, Joe said: "This is a fairly big and difficult job and I had difficulty in meeting its demands without letting my other involvements suffer."

Joe has three children and seven grandchildren and is involved in youth work and church work.

He's a keen gardener and his spare time will be spent in his orchard which he has been tending for 20 years.



Jan van Noort

JAN ENJOYED WORK

Jan van Noort, after 33 years with the Department, has retired from his position as head of the silviculture branch.

"The work has always been enjoyable and I've liked the people I worked with," he said before leaving in December.

"I always wanted to be a forester and my years at the Department have been largely in that area. I've been very fortunate in my career because I enjoyed the work."

Jan graduated from the Australian Forestry School (now Australian National University) in 1951 and began work here one year later.

He was based at Walpole and worked on the establishment of early logging roads.

After enduring a bout of tuberculosis, he returned to work on soil surveys for pine plantation placement in the South-West.

That led to doing research on jarrah silviculture in Dwellingup in the late 1950s and then

to take charge of the pine plantations in Wanneroo in the early 1960s.

In 1966 he came to Perth to serve as pine plantation superintendent and later became chief of division operations in 1978.

Following the amalgamation, he took on the job of head of the silviculture branch, which has included the development of systems of forest management (hardwood and softwood).

He said one highlight of his career with the Department was a 1970 tour of New Zealand forests, from which he was able to bring back many ideas.

He plans to travel in Australia and overseas with his wife, doing some ocean fishing along the way.

When they return, they may move to the South-west, Jan said.



Don Grace

Time to Spare

BARBARA MUNRO, CALM secretary, has retired after 16 years with the Department and having free time is "awful, to tell you the truth," she said.

"I think I should have finished off part-time to wean myself away from the place," Barbara said.

Barbara spent her years here as a head office secretary, with the chiefs of division for a time, but for the greatest length of time as secretary to Joe Havel, who also retired at the end of the year.

"The trouble is I get the housework done so quickly because of working all

those years and now I don't have enough to do," she said.

She probably will become involved with church work after returning from visiting her daughter in New Zealand.

"I really enjoyed working at the Department. If I hadn't, I wouldn't have stayed there all those years.

"The work was so interesting, partly because we were doing work that was important not just for next week or next month, but sometimes 75 years ahead.

"It wasn't like typing accounts would be. I don't think I could stand that type of work."

Back in 1952, Don Grace, manager, fire protection, survived a 16-week trial with the Forests Department and proved he "could take the school of hard knocks."

In December he left this "school" after 33 years in a successful and varied career as a forester.

Don earned a degree in forestry from the University of Western Australia and came to work for the Department in 1952.

It was a time of proving himself, because in those days graduate professionals were a barely tolerable necessity, Don said.

He began work here selecting and surveying tracks at Wellington Mills, about 30km from

Collie, to improve access to fires.

He stayed in Collie for quite a few years, moving up in the ranks and no doubt showing that book learning isn't all bad.

Don eventually became officer in charge at Collie, and he wore many hats, including that of administrator, settlement boss, engineer, sawlogger and pine land purchaser.

"I saw some good times at Collie," Don said.

It was on to Manjimup in 1963 as senior divisional forest officer, which was a different type of work because he no longer directly managed operations.

His responsibilities shifted to administration of burning, milling and timber growing operations.

Don eventually became superintendent in charge of six

southern division, and helped large-scale aerial burning techniques.

Don also helped convince the Department's administrators to begin clearfelling karri because of benefits in management and productivity.

In 1972, Don came to Perth to take a position as superintendent of Northern Regions.

He then became chief of division in protection, which included fire and environment and mining rehabilitation.

Following the amalgamation, he took up his present position as manager, fire protection, and in that role has been responsible for the protection from fire of lands under the Department's control and the use of fire as a management tool.

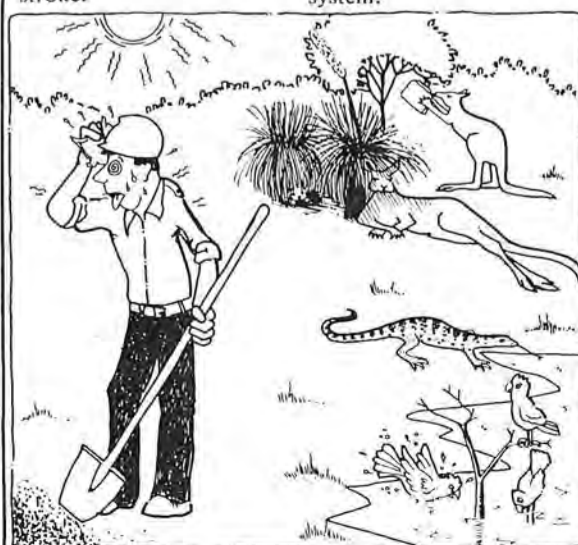
GRACE LEAVES HARD KNOCK SCHOOL

Avoid effects of summer heat

By ARTHUR KESNERS

With summer here, we can expect some heat waves.

Heat waves can cause epidemics of heat illness ranging from discomfort to life-threatening heat stroke.



Many harmful effects of heat can be avoided by taking the proper precautions outlined in this article.

Most adverse effects of heat come from overloading the body's cooling system.

Body heat is carried by the blood stream to the skin, where the evaporation of sweat reduces its temperature.

To maintain correct body temperature, three things are essential: Circulation must be able to carry to the skin all the heat produced in the body; the skin must be able to produce enough sweat; and the sweat must be able to evaporate.

The failure of any link in this chain will cause body temperature and heart rate to rise.

The most common adverse responses to heat are to feel weak, dizzy or sick.

The symptoms rapidly disappear when their causes are removed — by discarding surplus clothing, resting in a cool, shady and well-ventilated place, and taking frequent drinks of water or juice.

If a person ignores the warning symptoms and keeps working in the heat

he may collapse. Usually the skin is cool and sweaty, the body temperature is less than 39° C, and the patient is conscious and rational.

He recovers when treated as described above, although in some cases he may need to be taken to hospital and given fluids by vein.

Occasionally a person who collapses may have the far more dangerous condition of heat stroke (sun stroke).

Before collapsing, he may become irritable, confused or apathetic. He may have fits or lose consciousness.

Body temperature is usually more than 40° C and the skin is usually hot and dry because sweating has stopped.

Everyone who behaves abnormally or loses con-

sciousness in hot conditions must be regarded as a possible case of heat stroke and his body temperature must be measured without delay.

If the temperature is 40° C or more he must be cooled to 38° C by placing him in a cool and shady place, removing all his clothes and spraying him with cold water while fanning him vigorously to encourage evaporation.

Every minute's delay in cooling him increases the likelihood of death or permanent injury.

People who have been sweating heavily for many days and not eating normal meals may develop salt deficiency, which can result in cramps, lethargy and symptoms of heat exhaustion. Drink salty fluids until recovered and then resume a normal diet, with extra salt at mealtimes if necessary.

Prolonged wetting of the skin by unevaporated

sweat can cause prickly heat, an intensely itchy red rash. The best treatment is to let the skin dry for at least some hours of each day.



HOW TO PREVENT HEAT ILLNESS

The two greatest heat sources are physical exertion and sunlight.

Resting in the shade avoids both. If exertion is unavoidable, try to schedule it for cool times of day, use shade and take frequent rests for cooling off.

Avoid hot winds. Keep indoor temperatures down by closing all windows and doors and drawing the blinds as soon as it feels hotter outside than in and reverse the process when it is cooler outside.

Wear as little clothing as possible, and the clothing you wear should be light and loose to let air circulate.

Use fans to increase air movement. They are cheaper than air conditioners and do not impair natural acclimatization.

Increase sweat evaporation by frequent sponging or by putting wet cloths on the skin and fanning them.

Drink cool water at least every hour.

The best drink is plain water between 15° C and 20° C. Take your normal drinks (tea, coffee) but avoid excessive alcohol which can cause dehydration.

Do not take salt tablets or salted drinks unless your doctor orders it. Too much salt is harmful and the normal diet contains enough salts to replace what we lose in sweat.

There is no fixed requirement for extra water in heat waves — it depends on how much we sweat and that depends on how much heat stress we experience.

Few people ever drink enough, because thirst is always satisfied before fluid losses have been fully replaced.

TAMMIE GOES TO U.S.

TEACHING people how to see and appreciate the natural environment isn't an easy task, but it's one that Tammie Reid has tackled with enthusiasm and innovation during the three years she has been CALM Education Officer.

Tammie, who started with the Department as a forester, began 18 months leave in January to start a family and to study in the U.S. to increase her skill and knowledge of environmental education and nature interpretation.

At Chicago University in Chicago, Illinois, she'll "learn new strategies and techniques in getting people to look at nature," she said.

The University specialises in outdoor recreation, leisure and environmental education and Tammie will bring back many new perspectives and ideas.

As Education Officer she has taught kids and adults to use games like "Eye in the Sky" and "Rainbow Chips" to see all those things in nature they miss because they're not really looking.

She has also taught teachers, CALM staff and the general public how to look at nature imaginatively.

Tammie has seen CALM's education section grow in the last few years from occasional talks in the classroom to developing entire community education programmes.

And she knows when she returns things will have changed as dramatically: "I just hope I'll bring back experience and a broader knowledge of information systems and community education to build on the programme the department already has."

"The people contact and the imagination and creation is the best part of the job," Tammie said.



Tammie Reid unwraps a going-away gift from staff members.

Trevor back in old job

For the past five months, Trevor Hislop has put a lot of hard work into developing training programmes and work schemes for CALM.

He returned at the end of the year to the Department of Employment and Industrial Relations, from which he had been seconded.

Trevor's efforts were directed, for the most part at developing the Department's traineeship programme, the first of a new type of labour market programmes that will employ and train 150 young people in basic skills in land management and office skills.

He also spent much time putting together applications for the most recent round of Community Employment Programme projects.

Trevor was also involved with Westrek, helping to come up with ideas of where the scheme might be put to use in CALM.

Trevor said his time here was a "good change and very interesting work."

Steve Grasso, former assistant district forester at Manjimup, will take over Trevor's responsibilities in the one-year traineeship programme.

In that position, he will liaise with CALM, the districts in which the trainees are employed, TAFE and other interested government departments throughout the programme's length.



Trevor Hislop

SEARCH FOR ROCK WALLABIES

By Jack Kinnear
A desert expedition in October by Wildlife Research staff to the remote Calvert Ranges located a natural population of Rock Wallabies.

Finding the Rock Wallabies is important for two reasons: increasing our knowledge of the species and gaining information that will help us conserve wildlife in the settled areas of WA.

The expedition party consisted of Mike Onus, Phil Fuller and myself, from the Wildlife Research Centre, and Ivor Llewellyn, former Chief photographer (now retired) with the Department of Lands and Surveys.

The Calvert Ranges lie about 400 km north of Wiluna, deep in sand ridge country.

The sand ridges are of the chain or jumbled type and while the ridges are not the highest in the desert, the density of the ridges must be the highest.

This meant we had to plan our route very carefully to minimise dune crossings as much as possible. Phil and Ivor spent many hours over aerial photographs plotting a route through the maze of ridges.

Two vehicles were taken and fuel and water were budgeted to avoid excessive weight, but it was difficult to calculate our fuel consumption through unknown sand ridge country.

We carried enough fuel allowing for the worst possible scenario, assuring that at least one vehicle would be able to return to Wiluna.

From Wiluna, we travelled up the Canning Stock Route, encountering ridges that became increasingly difficult to cross, but a drop in tyre pressure was all that was needed.

North of Well 16, we left the stock route and turned east toward the Calverts, which were only 40 km away.

The first sand ridge was a beauty and seemed destined to stop us dead in our tracks. We wondered what lay ahead if and when we got over the summit.

With our most experienced driver, Phil Fuller, at the wheel, the dune was charged to no avail.

Two attempts later, the

land cruiser near the boiling point, we were still wondering what lay ahead.

We eventually conquered the ridge after experimenting with tyre pressure.

The final 40 km to the Calverts was a painfully slow process that took more than four hours over a very rough track.

At the end of the first hour, I was cursing the designers of 4WD seats and suspensions. After four hours I was ready to trade the vehicle for a second-hand camel.

On approaching the Calverts, we wondered about the outcome — would we merely find the usual rock kangaroos or would we find Rock Wallabies in sufficient numbers?

On site, it soon became evident that Rock Wallabies were about in large numbers. It was an especially cheerful camp that night.

Having located them, what can we learn about the species? And how will this information help us conserve wildlife in the settled areas of the State?

Firstly, one can learn some important things

about the niche the animals are in — that is the conditions under which these species can live.

From our brief visit, it was clear the animals were adapted to very harsh conditions and low-quality food.

These observations imply that we cannot explain away the disappearance of Rock Wallaby populations in the milder South West on grounds of adverse climate: the species is too well adapted to arid conditions for such reasoning to be valid.

When it comes to drought, Rock Wallabies are tough and resilient — nobody can accuse them of being wimps.

But perhaps most importantly, a study of remote desert Rock Wallabies in their undisturbed habitat will help us to understand how to keep populations of rare and endangered species on reserves in the Wheatbelt where the habitat for wildlife is now so fragmented.

We have to understand the ecological consequence and problems faced by wildlife living in these environments and we can learn the essentials from studying the Rock Wallaby in its natural state because that has been its lifestyle for thousands of years.

BRIEFLY

The inaugural State Operations Headquarters Volleyball Championship culminated in a powerhouse win to the Internal Audit side in the Final held December 5.

The pre-tournament favourites, Research, could not get their usual game going in the face of some vintage volleyball from the Audit Team, made up of Julie Anderson (non-playing captain), Mary Colreavy, Roger Gorski, Peter Ryan, Norm Press, Jeff Main, Bob McGeachin, and Rod Taylor.

Special thanks go the substitutes Shane Knapp, Les Marrable and Helen Fordham, who filled in when the need arose during the early rounds.

The final scores were: 15-3; 15-2 and 15-1.

The teams that competed in the volleyball competition this year were Research, Wildlife and Accounts (Group A); and Internal Audit, Mapping and Records (Group B).

Thanks to Colin Barns for organising this popular competition.



An arts and crafts award and exhibition open to employees and their families is being sponsored by CALM.

Categories in which prizes may be awarded will include painting, drawing, sculpture, ceramics, woodwork, textiles and others, depending on interest shown.

Further details will be available in the next CALM News.

Any staff member with an interest in this area who would like to make a suggestion or contribution toward the planning and organisation of the event, is encouraged to contact Hilary Graham as soon as possible at Murdoch House on 364 9666 on Tuesdays, or at home on 386 2639.

LIBRARY SERVICES

The second CALM MAG (Library Accessions list) and guide to the Library and its services was distributed to those who requested to remain on the mailing list.

If you missed receiving your issue and wish to do so please inform us.

The Library celebrated its first birthday in December with a champagne afternoon tea and cake for those at the Research Centre.

The event was a success with a display on the history of the new library building on exhibition.

COMING EVENTS
A computer listing of journals currently received

by the Library will be distributed shortly.

With the increase of Departmental staff it is inevitable that longer circulation times will be experienced.

Many journals are also lost while circulating.

It has therefore been decided by the Library Committee that contents pages of the popular journals will be photocopied and circulated.

Staff can then request articles to be copied and sent to them.

Through this system staff members will have access to a larger number of journals than previously received.

— ELIZABETH LACZO



Jenny Burgess and John Atkinson at the Como Christmas Party.



Ken Allan, Rick Curriion, Jacque Rene, Steve Mountford (dinner guest) and Shaun Robless at the Christmas dinner.



Stella Bickmore and Greg Rogers at the Sundowner.



Roger Gorski, Ken Allan and Glenn Anderson (from Homeswest).

XMAS CAPERS

Christmas was a time of great cheer for CALM staff, who, by the looks of these pictures, did more partying than working in December.

These festivities began in November with the Sundowner at Crawley.

Next was the Christmas Dinner Party at the South Perth Yacht Club, a high-class affair with dancing, dining, and drinking throughout the night.

The annual Christmas Party, held at Como on Christmas Eve, finished the season in fine style.



Alanna Stingemore, Ian Frame, Debbie Greaves, Allan Burnett, Roxanne Horsley and Kerry Olsson at Como.



Bob Simpson was the only entry in CALM's first breakdancing contest.