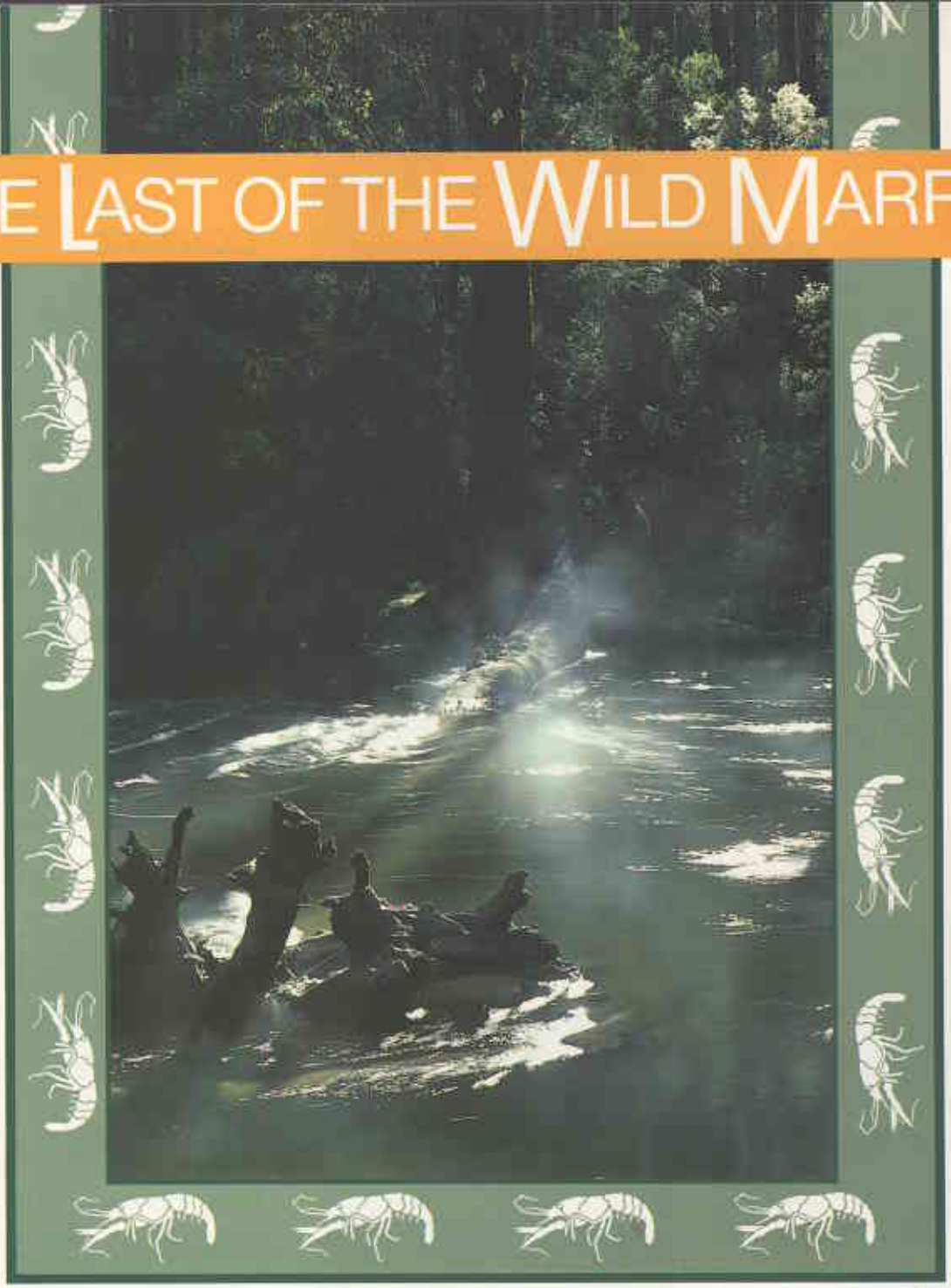
THE LAST OF THE WILD MARRON



BY ANDREW CRIBB

Marron - those succulent white-fleshed crustaceans cried out for by gourmets the world over - are part of a West Australian lifestyle which most of us take for granted.

For the cost of a licence, about $8.00 a year, any sandgroper has been able to gather family and friends, take a trip into national park or State forest, and enjoy an outdoor feast the envy of restaurant-goers from Soho to Singapore.

In the summer of 1987 the marroning season was closed for the first time. A series of dry seasons, and a tumbling catch rate threatened the sport of marron fishing with collapse. The season will stay closed this year.

Some of the problems facing marron come from the environment, most are caused by people. Andrew Cribb asks: 'will ordinary West Australians take up the challenge of looking after their marron stocks, or are we seeing the last of the wild marron?'

The smell of woodsmoke from an open fireplace, and the dark shadows of trees as they fall across the cool of the evening water have a special association for West Australians born and bred in the South-west.

For many years any summer's evening in the jarrah or karri forest would find folks from bush and city enjoying one of W.A.'s more gentle sports.

Every stretch of open shoreline from Waroona Dam near Dwellingup, to the dark Warren River had its parties of marroners, and in the morning the tell-tale litter of pink shells and the charcoal from extinguished fires would bear testament to a pleasant evening spent with scoop net and chook pellets wading in the shallows.

Last summer all this came to a sudden full stop. For the first time in the history of the State, the Fisheries Department closed the season.

Now there are grave doubts about the future of marron fishing as a sport. Can the marron survive the demands from an increasing number of marroners? Are the current management rules adequate to protect the breeding stock? Will marroners allow management to protect the stock? What happens when the season re-opens?

The challenge facing both fisheries managers and other environmental management agencies is to evolve a set of tactics which will allow some future both for marron fishing, and for the marron.

The challenge facing West Australians is to care enough about having marron around for themselves and their children that they don't abuse the privilege by catching them to the point of extinction. In other words we are talking about that age-old conservation goal : sustained yield.

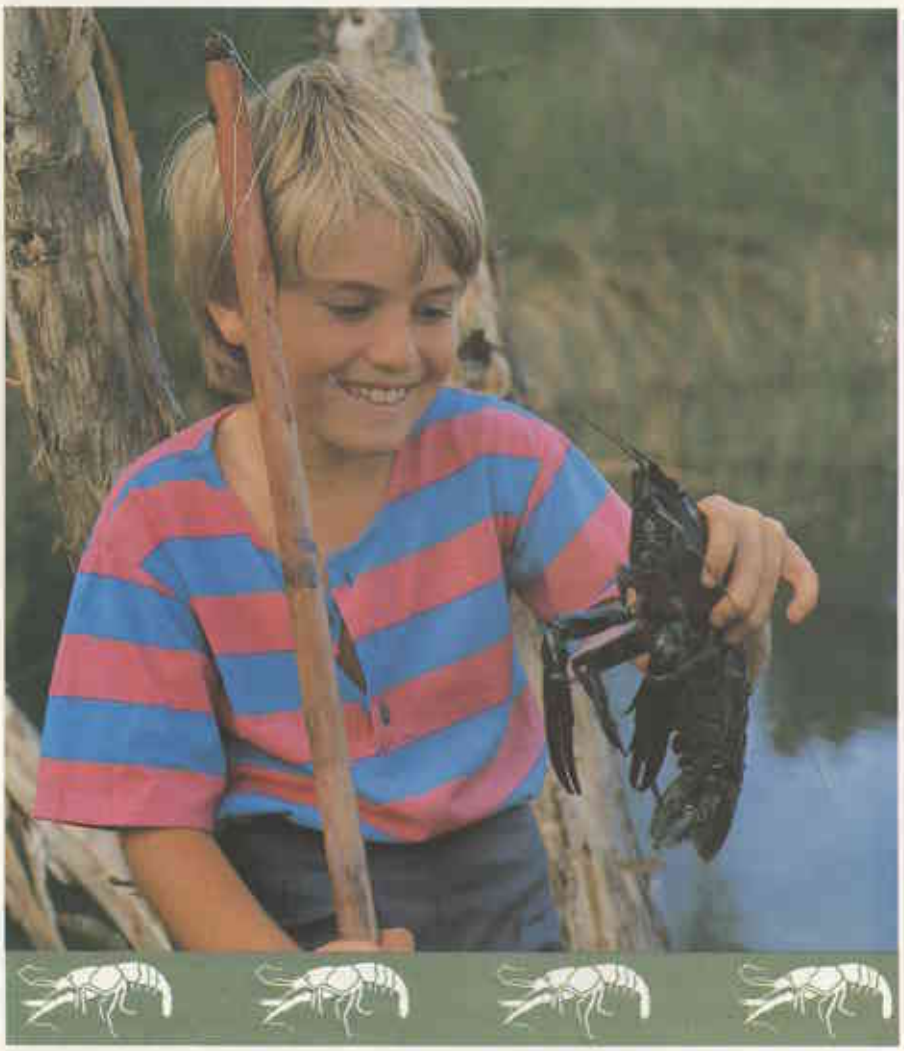
NETS AND FOUR-WHEEL DRIVES

Marron fishing is a sport unique to W.A. No other country in the world has anything like it. Commercial marron fishing was banned in 1955, and since then wild marron, the third largest freshwater crayfish in the world, have been reserved exclusively for the enjoyment of West Australians during their leisure time. Marron are truly a community resource, and it is the way the community uses the resource that will determine, to a large extent, its future. Governments can legislate and police, but without community support these measures amount only to fingers in the dam wall.

The rivers of the South-west provide at least 1 000 km of banks accessible to marron fishers, and the irrigation dams of the Darling Scarp give another 320 km or so of shoreline.
Over the last 20 years the demand for marron, and the pressure on the existing stocks, has steadily increased.

As with many other forms of 'bush-based' recreation, much of the additional pressure on environmental resources has come from an increasingly large, affluent, leisured, and mobile city-based population seeking outdoor recreation within reasonable driving distance of their homes. Often a few drop nets and some chicken pellets are as much a part of the family camping trip or picnic as the snaggers and steak.

With four-wheel drives and trail-bikes becoming more and more common remote stretches of water are also increasingly heavily



Clifford Young

A predilection for chicken pellets led to this marron's downfall

fished,putting pressure on previously safe stocks.

The use of drop nets with a mesh small enough to catch undersize marron also creates a problem. Anyone going fishing more than a few weeks after the season opens has small chance in the late 1980s of getting a bag limit of legal-size marron. Most of the last season's stock that reaches legal size over winter are cropped off soon after the season opens.

As the number of legal-sized marron available for catching falls, more and more marroners take up the habit of eating undersize 'supperies' at the fishing spot, only taking home legal-sized marron.

Environmental changes have also had their effect. Although marron have been artificially spread outside their original range, particularly into farm dams, their distribution along inland rivers has shrunk. Clearing for agriculture, boosted algae growth through the run-off of fertilisers which reduces oxygen in the water, and increased salinity resulting from agricultural clearing have made the inland end of many major rivers in the south-west unsuitable for marron.

As with other types of fish, the problem of 'shamateurs' illegally selling their catch is also a major cause for concern.

In recent years the value of marron as a saleable product has sky-rocketed. Along with many other types of crustacean, marron are now part of the luxurious and expensive gourmet food market. The incentives for poaching, out of season, over bag limit, or undersize are increasingly attractive.

The growth of interest in commercial crustacean farming, although potentially of enormous benefit to W.A., also poses an oblique threat to the viability of the wild marron fishery if management controls are not rigidly applied.

Farming, both hobby and commercial, creates a demand for juvenile stock, and this in turn presents an incentive for poachers to take large quantities of young marron from the wild.

The introduction of other species and stock from interstate and overseas, if not strictly quarantined, brings with it the risk of releasing exotic diseases into native river systems, and the imports themselves, if they escape or are released into the wild, may supplant native species by outcompeting them or modifying their habitat.

ON THE MARRON PATROL

Overseeing the marron fishery effectively has always demanded creative thinking from Fisheries Officers. Unlike other fisheries, marroning is a largely nocturnal activity, carried out deep in the bush. The number of marroners out on any night in the season probably runs into thousands, and part of the social scenario is drinking. All of this adds to the difficulties faced in supervising the fishery.

The Fisheries Department has a patrol unit dedicated full-time to the recreational marron fishery, and another to supervising commercial farming. These are backed up from Perth and district offices throughout the South-west.

The 'marron patrol' covers the major fishing area between Moore River and Albany. Most years they clock up more than 60 000 kilometres along bush tracks and around dams, keeping an eye on legal and illegal activity.

Patrols have to be carried out at night, many of them on foot round the waterways. Visibility along the shoreline of most marron waters is limited, and actually catching marroners in the act of illegal fishing is difficult. Nonetheless roughly 200 offences are reported every year, both in season and out, and many more warnings, verbal and written are given.

Chief Fisheries Officer Neil McLaughlin described some of the management problems faced by Fisheries Officers.

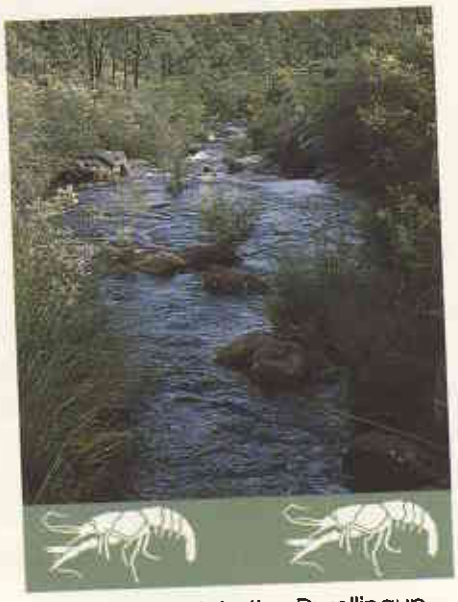
'In the recreational marron fishery we not only have the sheer physical difficulties imposed by patrolling isolated areas at night, but also a widespread disregard for bag limits, legal sizes and other management controls amongst marron fishermen.'

'Fishermen often use a range of tactics to avoid detection, including eating undersize marron at their fireside, pulling the tails off and burying the heads, and making stashes in the bush to collect later if they suspect a Fisheries road-block.'

'We are determined to make the illegal sale of marron and the take of large quantities undersize or out of season uncomfortable enough to put poachers out of the market.'

Recently, the fines for marroning offences were substantially increased, bringing them into line with the fines for rock lobster and abalone offences.

The maximum fine for taking marron out of season is now up



Jiri Lochman

Marrinup Creek in the Dwellingup area is one of many quiet river streches favoured by marroners.

to $1 100 for a first offence, and $2 200 for subsequent offences. Fines for taking undersize marron range from a maximum of $500 for a first offence, to a maximum of $2 500 for a third offence. In addition there is a fine between $5 and $25 for every undersize marron caught. This means those who illegally take large quantities of marron risk fines as big as their crimes.

For the 'shamateur' scalpers who sell their catch the fine can be as high as $15 000 for a second offence.

Police are ex officio fisheries officers, and CALM's Wildlife Officers are also authorised to act as fisheries officers.

LIVING WITH MARRON

Marron are native to the river systems of the South-west, but since European settlement their range has been considerably extended north and east.Originally they are thought to have been confined to the permanent freshwater streams between Leschenault Inlet near Bunbury, south to Augusta, and east to Irwin Inlet near Walpole. Since 1829 they have been introduced to rivers as far north as Geraldton and to farm dams as far east as Esperance.

Many of the most popular marron fishing spots today are on the dams and rivers of the northern jarrah forest, most of which have been stocked since the 1930s. Two documented examples are the Murray River, which flows through Lane Poole Reserve, and was first stocked with marron in 1938, and Yanchep Lake, in Yanchep National Park, which was stocked in 1932.

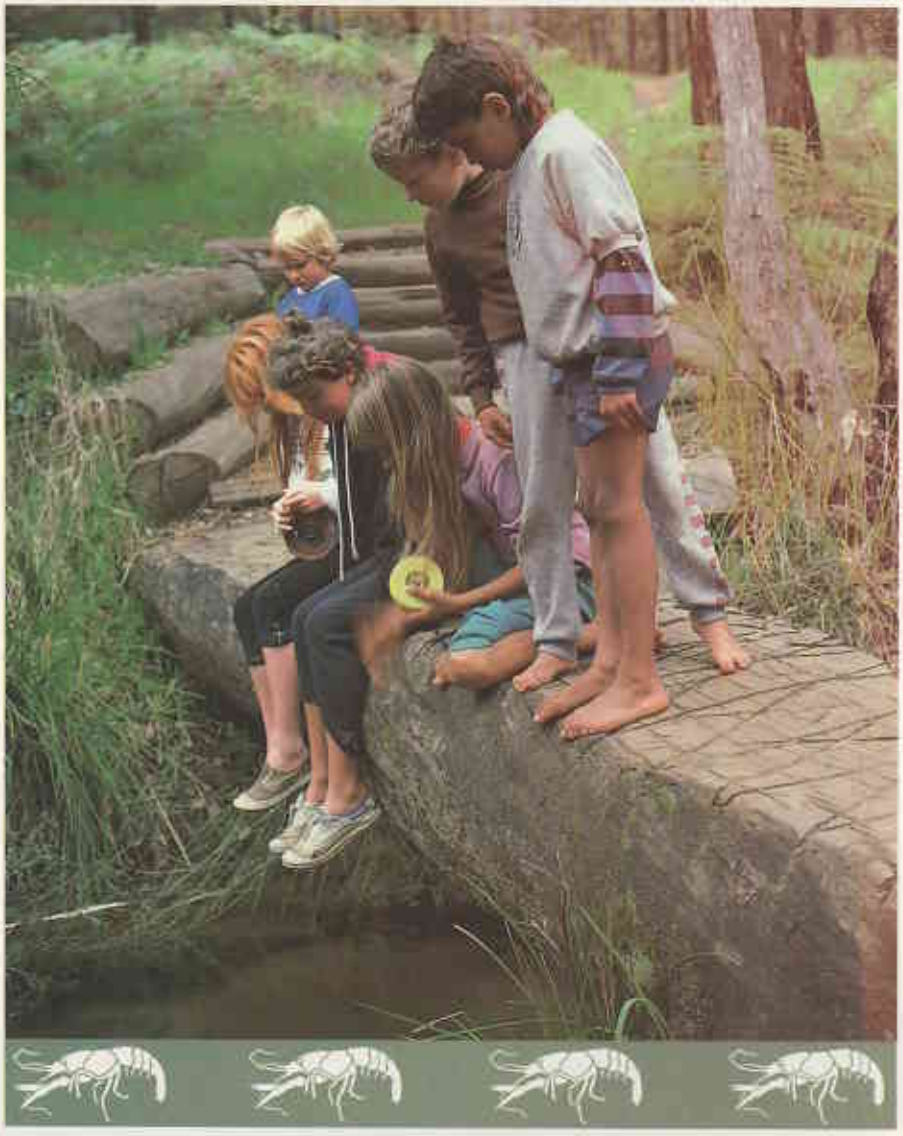
Marron may take about two years to reach the legal minimum size of 76 mm carapace length, but growth rate varies greatly between different populations. Marron in rivers often reach sexual maturity at below legal size, but in irrigation dams marron grow faster and mature later, making the breeding stock more susceptible to overfishing.

A closed season and minimum carapace length of 3 inches (76 mm) was first set for marron in 1952, and was based on what was then considered to be a 'fair' eating size, not on the reproductive biology of the animal. The same reasoning was applied to the original bag limit of 30, which was considered a 'fair' feed of marron for an average fisherman. Even in that era it was clearly perceived by fisheries managers that marron would be placed under extreme pressure as W.A.'s population grew.

The closure of the marron fishing season may have taken casual observers by surprise, but to researchers, fisheries officers and marroning regulars alike, who had been watching the dwindling catches and growing flood of marroners over the late '70s and early '80s it was almost inevitable. Fears for the future of the wild marron breeding stocks in our south-west waters came to a head in late 1987, after a series of dry winters and hot summers pushed down water levels in dams and rivers.

Dr Noel Morrissy, in charge of freshwater fisheries research at the W.A. Marine Research Laboratories at Waterman, described the situation when fisheries officers first came to the hard decision not to open the season.

'We were aware of declining catches over several seasons, through the log books of the marroners we use for research, but



Jiri Lochman

Marroning holds a fascination for all ages; these children were seen play-catching marron at the Lane-Poole Reserve

here was considerable debate about the best solution. Restricting the season even further by not opening it until January was seen as impossible to enforce, other available options which included increasing size limits, decreasing the bag limit, or closing certain waters all had their drawbacks.'

'The dry winters of 1986 and 1987 pushed the remaining marron stocks into even smaller areas of habitat, and made the stocks more vulnerable to overfishing.'

Since the summer of 1971/72 the Fisheries Department's Research Branch, based at Waterman in Perth, has had a monitoring program to measure catch rates, the number of marroners fishing each year, breeding stock levels and a variety of other factors thought to affect the marron population.

Log books, kept by a select number of regular marroners, provide information on catch rates, and more importantly the number of legal-size marron caught per trip, as well as indications of the most popular fishing spots.

The number of licences issued by the Department each year gives an indication of how many people go marroning. Since 1971 the number of licensed marroners has risen from around 5 000 to something in the order of 24 000.

Log book records between 1984 and 1987 showed a dramatic drop, not only in the proportion of legal-size to undersize marron caught per trip, but also a 50 per cent drop in the number of undersize marron caught.

Between 1971 and 1980 average catches of legal-sized marron amongst the experienced and skilled log-book marroners ranged from 10 to 24 marron each a trip. Between 1981 and 1984 the average fell to between 8 and 15, and in the summer of 1986/87 an all time low of between 7 and 9 legal-sized marron per marroner per trip was reached.

All these factors combined supported growing public concern, and led to the decision to close the season.

At the beginning of 1988 a public discussion paper on the marron fishery and the management tactics available to rescue it was released by Fisheries Minister Julian Grill, and a committee, chaired by south-west MLC Doug Wenn, was set up to receive and consider public submissions.

The committee, made up of representatives from south-west towns, the Fisheries Department, and other interest groups made its report on the submissions it had received to the Minister in October, and the decision to keep the season closed during the summer of 1988/89 was made.

WHAT NEXT?

Over 80 written submissions from both Perth and the South-west were received, and the Marron Committee also visited country centres for further input.

Many suggestions centred around lowering the bag limit, shortening the season or increasing the legal size. Others focussed on changing allowable fishing methods to lower the take of small marron.

The committee are continuing to examine options for the long-term management of marron fishing, and will make their final recommendations during 1989.

The key to protecting a fish population from overfishing is to restrict the 'fishing effort' of the users of the resource. Tactics can be as radical as making fishing illegal, or as subtle as imposing restrictions on high catch-rate fishing tackle. Whatever the technique the philosophy behind managing a natural resource is the same: to ensure that it is both sustainable, and equitably shared amongst its various user groups.

Whatever the management tactics eventually decided upon, West Australians will need to understand that if they wish to have marron in the future, they will need to treat them with greater respect.

They are gourmet fare, a remarkable part of WA's native wildlife, and a privilege to be shared amongst everyone in the South-West.

Marie Lochman

This robust looking marron (Cherax tenuimanus) is a gourmet's delight.

LANDSCOPE

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EDITORIAL

It is difficult to remember a time when our daily news did not feature some environmental controversy. To people involved in environmental research and management, the popularity of 'the environment' is a mixed blessing.

Greater public consciousness of environmental issues has meant increased funding and, to some extent, greater prestige. But many scientists working on ecosystems are uncomfortable when their work is placed in the political spotlight.

The knowledge that a scientific observation that once would have been tucked away in a scientific journal to be read only by a few colleagues could become the centre-point of a political controversy is daunting.

Retaining objectivity in any research area is difficult. For those engaged in research on the natural environment it is even more difficult. Unlike the physical sciences in the natural sciences the truth is often camouflaged by interactions between factors which vary over time and space. When the results of this type of research are placed in the political arena, the mixture is often volatile and the truth a casualty.

To enable scientists to better seek the truth and communicate it, the scientific community has adopted what has been called "the scientific method". The scientific method is a code of conduct with rigid requirements. An offshoot of that code is a set of rules which scientists must follow, at least in reputable scientific journals, if they are to have their research published. Unfortunately, a byproduct of this is that scientific articles are not the easiest to read and are often plain boring.

Given that the environment has become a major political issue, it is important that those involved in the debate are fully informed. But scientists are faced with a dilemma. They need to popularise their work to reach a wider audience. On the other hand, they cannot afford to lose objectivity.

NATIVE CREATIONS

Nouvelle jardins, multiculturalism or laissez-faire; which garden fashion will you choose? Turn to ***page 22.***

WILD MARRON

Do our wild marron have a future or will local gourmets keep catching them to the point of extinction? Find out on ***page 4.***

KARRI MAGIC

What is really going on in the karri forest? On ***page 32*** *we take a look at the system of conservation reserves that have been established to preserve this awe-inspiring forest.*

STRANDED!

Relive the euphoria of the Augusta whale rescue on ***page 18.***

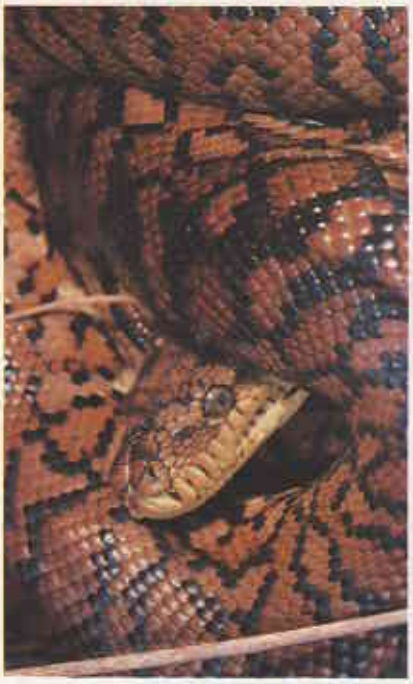
BACK TO BASICS

With today's massive land boom it's hard to imagine that the State once couldn't give land away fast enough. Now the government is buying back our valuable conservation areas. See ***page 43.***

DESERT GEM

The Gibson Desert Nature Reserve covers over 1.8 million hectares. It is a desolate but subtly beautiful landscape. Read about this unique area and the management problems it presents on ***page 48.***

SNAKES & ADDERS



Slim and active snakes have emerged hungry from their winter hibernation. But they're not all venomous. See ***page 51*** *for tips on living with snakes.*

AFTER THE FOX

Foxes pose a major threat to native mammals and other fauna. Can we outfox them? See ***page 12.***

A SIGHT TO BEHOLD

'Its pouch can hold more than its belly can', goes the popular rhyme. Find out more about this awkward but graceful bird on ***page 39.***

Cover Photograph

One of our natural wonders - the beaches of Hamelin Pool (Shark Bay) consist of billions of small shells.

Photo by Bill Bachman.

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