





# *A* wonderful **WOODLAND**

Less than 160 kilometres south-east of Perth lies one of Western Australia's most important conservation reserves.

Dryandra is one of the last refuges for many species of animals like the numbat and woylie, and scientists have long known of its importance.

However, it is only recently that the general public have been given the opportunity to experience the wonders of Dryandra Woodland and help with research into the long-term survival of these native mammals.



*By*  
*Anthony Desmond*  
*and*  
*Michelle Boothey*



**D**ryandra Woodland is an ecological oasis in the mostly cleared western Wheatbelt region of Western Australia. The name is a collective term for 17 separate blocks of remnant vegetation and mallet plantations, totalling some 28 000 hectares, that are managed as a group by the Department of Conservation and Land Management (CALM). The survival of such a large area is the result of two historically important decisions: to provide land for the establishment of mallet plantations and to set aside areas of bushland for water catchments.

Mallet bark is high in tannin, a naturally occurring chemical used for tanning animal hides to make leather. Because of the high demand for leather

*Previous page*

Wandoo, powderbark and brown mallet crowns stretch as far as the eye can see. Clearing for farmland has made this spectacular sight rare in the Wheatbelt.

*Inset:* The woylie, once endangered, is now a regular sight throughout Dryandra because of fox control.

Photos – Jiri Lochman

Dryandra's open wandoo woodland is dominated by thickets of poison bush, providing valuable shelter for animals from predators.

Photo – Marie Lochman

goods early this century, mallet bark was a valuable commodity, and brown mallet trees (*Eucalyptus astringens*) were being killed at an alarming rate to remove their bark. In the 1920s, the then Forests Department decided to set aside areas for the planting of brown mallet to relieve the pressure on naturally occurring stands and to provide a future sustainable resource. The plantations at Dryandra were among the first examples of broadacre planting of a Western Australian native species. Equally as important were the areas of native vegetation left untouched within the forest reserves. These areas were dominated by woodlands of wandoo (*E. wandoo*) and powderbark wandoo (*E. accedens*), and would later provide all-important refuges for native wildlife.

Areas of native vegetation were also reserved for water catchment purposes, supplying water both for nearby towns and steam-powered locomotives. In the latter case, Congelin Dam—now part of Dryandra Woodland—proved to be very important, as other dams in the Narrogin area were either too salty or ran dry intermittently. During the 1950s, special water trains were specifically employed to haul water from Congelin into Narrogin.

Although the tannin industry and steam trains were both assigned to history by the early 1960s, the value of Dryandra Woodland for conservation has increased dramatically. While many mammal species became extinct throughout the Wheatbelt in the 1970s due to fox predation, several, including the numbat and woylie, managed to survive at Dryandra. The main reason for this was the presence of dense thickets of poison bush (*Gastrolobium* species), which provided ideal cover from introduced predators. Poison bush also contains a natural chemical poisonous to introduced animals. The synthetic version of this poison, known as '1080', was later to become the main weapon in CALM's fight against introduced predators (see 'Western Shield', *LANDSCOPE*, Winter 1996).

In 1982, as part of an experiment to determine the effect foxes had on native wildlife, Dryandra became one of the first areas to be baited with meat baits containing 1080 poison. Continuous fox baiting over the ensuing 15-year period increased populations of numbats and woylies to the point where they can now be translocated to other Western Shield sites, and the woylie has been removed from the threatened species list.







## NATURE-BASED TOURISM

The Dryandra Woodland Management Plan released in 1995 provided guidelines for the creation of a truly integrated conservation and recreation showpiece. The majority of the woodland is quite open, providing visitors with an excellent chance of observing the animals in their natural habitat. The presence of these open woodlands so close to Perth, containing beautiful wildflowers and large numbers of mammals like the numbat and woylie, has led to increased visitation and a greater demand for interpretation in the area (see 'Woodland Wonderland', *LANDSCOPE*, Winter 1994). This is part of a worldwide growing interest in nature-based tourism, and is particularly evident in areas such as Western Australia that are high in natural attractions.

To cater for the increased interest in nature-based tourism in Dryandra, a variety of guided and self-guided recreation opportunities have been developed by staff at CALM's Narrogin Office since 1995. The first step was to create a focal point around Old Mill Dam, where wandoo sleepers and other timber products were cut. Here, the bush architecture of the old buildings at Old Mill Dam was carefully reproduced in the construction of a new information shelter, which helps orientate people and provide them with information on the opportunities available in the area. Two of the five newly constructed trails also leave from here. These trails range in length from 1–23 kilometres, with varying degrees of difficulty, and each trail has its own symbol to help guide visitors along the way.

The Old Mill Dam is also the starting point of the Sounds of Dryandra Drive Trail, an innovative trail allowing people

**Above left:** Congelin Dam was once visited by steam trains to make use of the freshest water in the district. It is a popular place for family barbecues. Photo – Babs & Bert Wells/CALM

**Above right:** A tour group enjoy an evening barbecue after a day of exploring Dryandra's many fascinating plants and animals.

**Right:** Anthony Desmond shows a spotlighting participant the markings on a carpet python. Photos – Darryl Moncrieff

to drive through a large part of Dryandra and discover some of the fascinating aspects of human interaction with the area by tuning their car radio into 100 FM. The first of its kind in Western Australia, Sounds of Dryandra has proved to be very popular and has gained international recognition for its informative and interesting commentaries.

A multimedia version of the Sounds of Dryandra Drive Trail will soon be featured on CALM's NatureBase internet site. Here, cyber visitors will be able to experience a 'virtual' tour of Dryandra, though nothing's quite as good as actually being there.

## WILD DAYS, WILD NIGHTS

Guided activities led by CALM staff have also been expanded. Since its inception in 1992, 160 participants have enjoyed the Dryandra Woodland Ecology Course. The course was specifically developed to allow CALM staff to share their knowledge of Dryandra and its amazing variety of flora and fauna, with a focus on providing participants with a chance to experience CALM's research and management techniques. Run over a weekend, the course has attracted a wide variety of participants with one



unifying desire—to learn more about the animals and plants that make up Dryandra's complex ecosystem.

Course leader Tony Friend, from CALM's Wildlife Research Centre, has a long association with Dryandra and one of its rarest inhabitants, the numbat. Since Tony's research into the near-extinction of this amazing animal started in the 1980s, management techniques developed as a result of his research have increased their numbers to the point where the population is now able to supply numbats to repopulate other areas. Together with other CALM staff, Tony is also able to impart a wealth of information on the many other native plants and animals inhabiting Dryandra.

One of Australia's rarest animals, the red-tailed phascogale (*Phascogale calura*), is the subject of a current research project. The research aims to uncover the reasons for the decline of this small, tree-dwelling carnivore. Course participants help with trapping the animals, recording the details of any





**Top left:** Alison Nannup standing behind one of the six interpretive trailside markers she designed for the upgraded Ochre Trail.  
Photo – Darryl Moncrieff

**Centre left:** Joy Penny shows visitors how to use a Yandi dish to separate finely ground Balga gum, one of the ingredients of traditional Nyoongar glue.  
Photo – Anthony Desmond

**Above:** A juvenile numbat on the alert for predators is a rewarding sight for those visiting Dryandra Woodland in spring. This marsupial has recovered from the brink of extinction through fox control.  
Photo – Jiri Lochman

**Far left:** The Lions Dryandra Woodland Village has provided visitors with rustic accommodation for more than 20 years. It is made up of some of Western Australia's oldest known Forests Department houses.  
Photo – Darryl Moncrieff

caught before releasing them once again into the wild. Other animals caught in these trapping exercises include dunnarts, mardos, frogs and a variety of reptiles, and information about them is also collected for research purposes.

Another research technique enjoyed by participants in the course is spotlighting. With such a large variety and concentration of animals, spotlight walks and drives are extremely popular. The excitement shown by participants at their first sighting of a woylie, brush-tailed possum or tamar wallaby is shared by the activity leaders.

## CULTURAL TOURISM

But Dryandra isn't just a place of animals and plants; it also has a long history of Nyoongar occupation.

Experiencing the history and day-to-day lives of the Nyoongars living in Dryandra has proved to be one of the most popular activities on the course. As a result, CALM's Narrogin District recently sponsored a cultural activities workshop for local Nyoongars, with the aim of training them to provide guided services to tourists. This group, under the guidance of Noel Nannup from CALM's Aboriginal, Education and Training Unit, plan to conduct a weekend course focusing on Nyoongar culture in spring this year. In keeping with the rising interest in cultural tourism, Dryandra's most popular walk, the Ochre Trail, has been revamped. It is on this trail that interpretive signs focusing on the Nyoongar association with Dryandra, as seen through the eyes of Noel Nannup's

10-year-old daughter Alison, have recently been installed.

With the experience gained from running the Dryandra Woodland Ecology Course, combined with an increased demand for CALM staff to show visitors some of the area's inhabitants, a group of 'stand alone' activities have been developed. Called 'Wonders of the Woodlands', these activities are based largely around the Ecology Course activities such as spotlighting and animal trapping.

## PACKAGED TOURS

Tour operators have begun to realise Dryandra's potential. In May this year, 16 inbound operators were invited to an overnight workshop at Dryandra to participate in some of CALM's guided



activities and discuss tourism opportunities. This has already led to tour operators expressing interest in including CALM's guided services and other local attractions into their tour itineraries.

Organised tours and independent visitors have a range of accommodation options available to them. The Lions Dryandra Woodland Village comprises eight ex-Forests Department cottages as well as two Nissen dormitories that have provided low-cost holiday accommodation for over 25 years. The Village is very popular with families, school groups and naturalists. Visitors can arrange to stay at the Village by contacting the caretaker: (08) 9884 5231.

Complementing the rustic Village accommodation is the Congelin Campground, where low-impact campground facilities, bins for recycling rubbish, and gas BBQs have been installed. The latter are particularly important to ensure that valuable habitat provided by hollow logs is protected and not used as firewood. For example, fallen wandoo limbs often provide excellent nest hollows for numbats.

Other accommodation for visitors, including farmstays, is available in the area.

## RETURN TO DRYANDRA

The next few years promise exciting times. Plans to bring back five species of endangered mammals add to Dryandra's growing status as one of the State's prime nature-based tourism destinations. Under the 'Return to Dryandra' project, which is part of CALM's Western Shield, a predator-proof compound containing core populations of western barred bandicoots, rufous hare-wallabies, banded hare-wallabies, boodies and bilbies will provide a safe environment for breeding. The offspring will be released into the wild in Dryandra and other Western Shield sites. All of these species once lived in Dryandra and their reintroduction will be another step in the

restoration of Dryandra's fascinating ecosystem.

The successful integration of nature-based tourism and conservation is complex, and requires sensitive management. Although it may appear that Dryandra has experienced a rush of development, CALM has been extremely conscious of the need to maintain the ambience that currently attracts visitors. Besides the protective measures already in place, a long-term study is under way that will help determine the social, economic and ecological impacts of tourism at Dryandra. The study has involved the local community in setting social and economic parameters, and has also helped them appreciate the benefits of protecting the wonders of this remarkable woodland—all of which will help ensure that nature-based tourism in Dryandra remains sustainable.

One of Dryandra's namesakes, the couch honeypot dryandra, provides an energy-rich food source for many animals, such as honey possums, native bees, and honeyeater birds.  
Photo – Babs & Bert Wells/CALM

Anthony Desmond is an Operations Officer with CALM's Narrogin District. Michelle Boothey is an Officer with CALM's Narrogin District. Both can be contacted on (08) 9881 1113.



# LANDSCOPE

VOLUME THIRTEEN NUMBER 1, SPRING 1997



*The threat from below . . . How can we defeat our greatest environmental enemy? Read about salinity and what we can do about it on p. 10.*



*Dryandra, one of the last refuges of the native wildlife. Now you can experience this woodland wonderland for yourself. Find out how on p. 36.*



*Europeans brought alien plants and animals to WA's rangelands, which have since become degraded. What can be done? See p. 42.*



*One of the best aids to plant conservation is completely invisible. See our plant DNA story on p. 18.*



*How old is the Stirling Range? Read about this stunning area in our story on p. 48.*

## FEATURES

### HALT THE SALT!

CARIS BAILEY, KEIRAN MCNAMARA & SYD SHEA ..... 10

### MORE THAN MEETS THE EYE

MARGARET BYRNE & DAVID COATES..... 18

### GARDEN PLANTS GONE WILD

PATRICK PIGOTT & ROGER ARMSTRONG..... 23

### FITZGERALD RIVER NATIONAL PARK

ANGELA SANDERS..... 28

### A WONDERFUL WOODLAND

ANTHONY DESMOND & MICHELLE BOOTHEY..... 36

### RESCUING THE RANGELANDS

TONY BRANDIS..... 42

### SEABED TO MOUNTAIN TOP

IAN HERFORD..... 48

## REGULARS

BUSH TELEGRAPH..... 4

### ENDANGERED

THREATENED 'ROCKS' IN LAKE RICHMOND..... 47

URBAN ANTICS BLACK-SHOULDERED KITE..... 54

## COVER

*The Fitzgerald River National Park boasts a startling array of habitats, mammals, birds and other species. Its wildflowers in spring are often spectacular. Our story on p. 28 is a fascinating tale of variety, beauty, and threat in this aged land.*

*Illustration by Philippa Nikulinsky*



**Executive Editor:** Ron Kawalilak

**Managing Editor:** Ray Bailey

**Editor:** David Gough

**Story Editors:** Mandy Clews, Verna Costello, Carolyn Thomson, Mitzi Vance

**Scientific/technical advice:** Andrew Burbidge, Ian Abbott, Paul Jones, Keith Morris and staff of CALM's Science & Information Division

**Design and production:** Maria Duthie, Sue Marais

**Finished art:** Maria Duthie, Sue Marais, Gooitzen van der Meer

**Illustration:** Gooitzen van der Meer, Ian Dickinson

**Cartography:** Promaco Geodraft

**Marketing:** Estelle de San Miguel ☎ (08) 9334 0296 Fax: (08) 9334 0498

**Subscription enquiries:** ☎ (08) 9334 0481 or (08) 9334 0437

Colour Separation by Colourbox Digital

Printed in Western Australia by Lamb Print

© ISSN 0815-4465. All material copyright. No part of the contents of the publication may be reproduced without the consent of the publishers.

Visit **LANDSCOPE** online on our award-winning Internet site *NatureBase* at <http://www.calm.wa.gov.au/>



Published by Dr S Shea, Executive Director  
Department of Conservation and Land Management,  
50 Hayman Road, Como, Western Australia