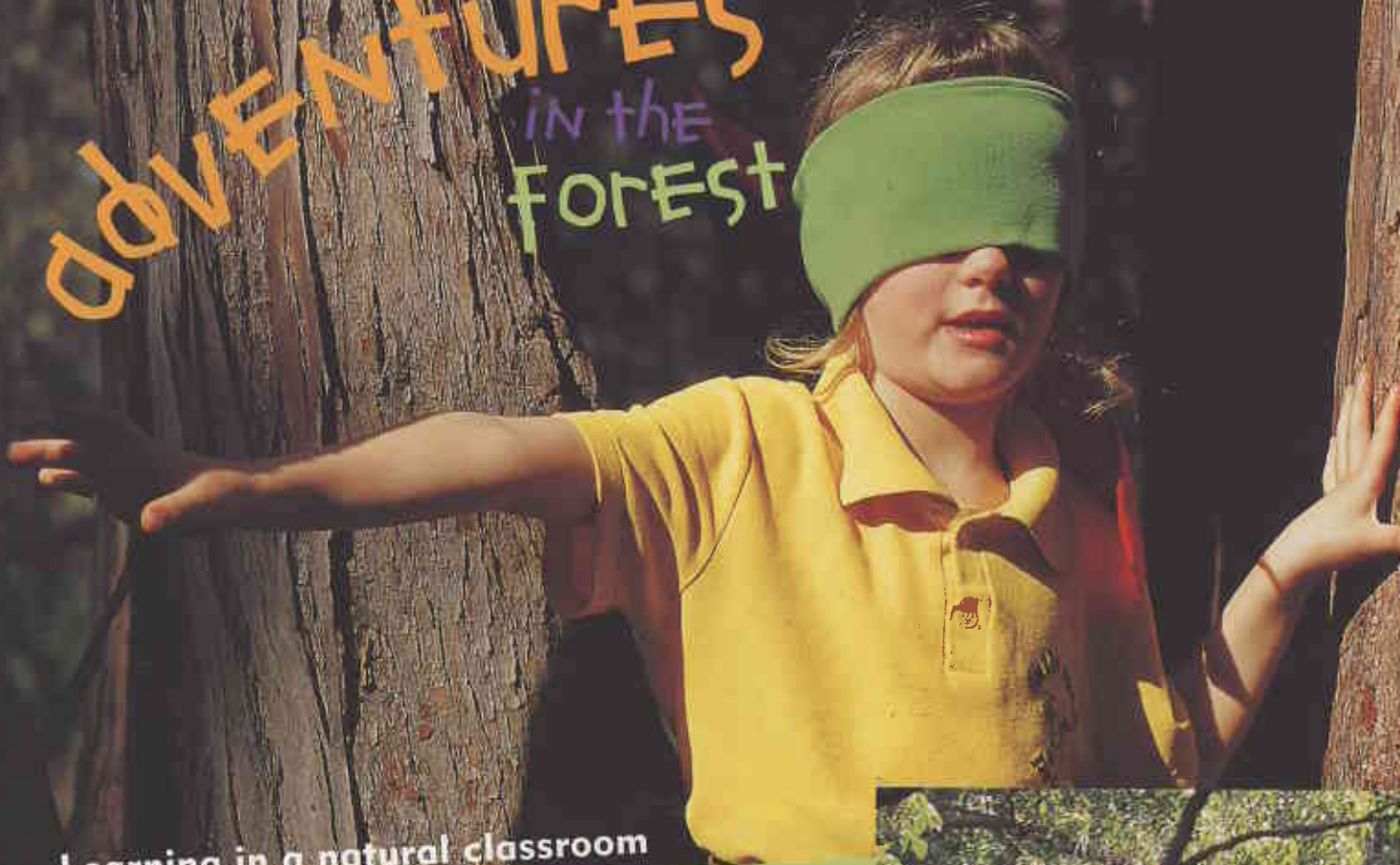


ADVENTURES IN THE FOREST



Learning in a natural classroom

For many young people confined to the city, being in the forest—away from electronic and commercial entertainment—is ‘having nothing to do’. Restricted to a neat outdoor world of back yards and managed parks, some imagine the natural world beyond to be dirty or dangerous. Few understand the complexity and importance of the natural world around us and the need for its management. The Hills Forest programs aim to improve understanding and, by doing so, enable people to have informed opinions about the decisions that affect their environment and their lifestyle. But how successful are they?



By **liz MOORE**

Photographs by Jiri Lochman/EdM

Enter the jarrah forest near Mundaring and you are likely to find primary school children searching for treasures of the forest, pretending to be raindrops, or peering into the pouch of a tiny pygmy possum. Some will be learning about salinity, erosion, dieback and fire. Others will be identifying nocturnal noises as they camp under canvas, or finding out how to tempt a woylie into a research trap. Dressed in kangaroo skins and carrying digging sticks, a few more may be role-playing traditional Aboriginal people travelling on a 'six-season walk'.

If we step back into our childhood, most of us will find that our love for and desire to care for natural places stem from special moments . . . out there . . . away from the built environment.

To help students understand our daily dependence on forests and their products, and to encourage them to

become involved in the decision-making processes that ultimately affect their environment, a range of programs is offered for each stage of development from early childhood through to upper secondary school level.

These school activity programs, as well as a range of programs for the community, are based at The Hills Forest Activity Centre near the Mundaring Weir, only 40 minutes drive from central Perth. They run throughout the year.

The *Exploring The Hills Forest* school programs have been developed with an awareness of the need to provide young people with discovery experiences in the bush to ensure that the next generation is going to care and understand about land management and nature conservation.

To this end, the primary school programs are followed by hands-on discovery opportunities for secondary

students. These older students can search out the mechanisms for survival of the drought-resistant jarrah tree and its residents, discover the science of forest management, participate in CALM's research methods, and learn how to contribute to threatened species conservation.

A PACKAGE OF LEARNING EXPERIENCES

CALM supports the learning experience on three levels.

First, teachers are provided with curriculum-based resources and an invitation to spend a day at The Hills Forest. They take part in some student activities, review written resources, meet marsupials and tour the jarrah forest looking at forest management issues.

Next, teachers return to school with material to help prepare students for their visit to the forest. Resource Packs link with many of the curriculum learning areas, including Science, Society and Environment, English, The Arts and Mathematics. They cover themes as diverse as the care of catchments, use of the forest by traditional Aboriginal societies, and ways to save threatened fauna species. In developing these resources CALM has complied with the new approach in schools of concentrating on approved outcomes.

The third and vital part of the

Previous page

Main: Blindfolded on the Sense-ational rope-walk trail a student experiences the roughness of jarrah bark.

Bottom left: An interactive model of the entire Helena Reservoir catchment helps students to understand the importance of forested catchments for water quality.

Bottom right: Dwarfed by jarrah trees, early childhood students return to the Centre from the Treasure Trail.

Above left: A treasure trunk reveals to young students some clues to the treasures of the forest.

Far left: Along the Catchment Carers' Trail a peep hole draws attention to a granite quarry, indicating one of the many sharers of forested land.

Left: Testing salinity of water in a model of a cleared catchment; part of the 'Halt the Salt' activities on the Catchment Carers' Trail.





strategy is to provide a variety of excursions into the forest. Each is led by a trained education officer and is carefully structured to include discovery and fun as well as learning.

The most effective learning takes place when students are actively involved in the process, so leaders make sure all students take part in small-group activities. Teachers then reinforce the concepts after the excursion, using the resources supplied.

ONE STEP BEYOND

School programs are extended further through the *Back from the Brink* program, which is aimed at raising awareness and understanding of the Western Shield wildlife recovery program, a CALM project focused on eradicating introduced species and re-introducing native species (see

'Bouncing Back', *LANDSCOPE*, Spring 1998). This provides young people with hands-on experience of conservation work in the field, camps, and a free Action Pack for curriculum-based work at school.

After completing the tasks in the Action Pack, classes can enter a draw to 'Win a night out with the woylies, possums, wallabies or numbats' at one of four venues. These are The Hills Forest Activity Centre, Mundaring (see 'A Night Out with the Woylies', *LANDSCOPE*, Winter 1997); Perup Wilderness Lodge, near Manjimup;

Batalling Field Ecology Centre, near Bunbury; and Dryandra Woodland Ecology Centre, near Narrogin. All expenses are paid by CALM.

Close encounters with threatened animals such as the bilby and burrowing bettong, a visit to an animal viewing hide, setting monitoring traps in the evening and checking them the next morning are all part of the activities. Camps provide a unique opportunity for students to work with a CALM Nature Conservation Officer and to take part in the Western Shield research program.

Above: Close encounters with native fauna bring home their plight to students of all age levels. Here Liz Appelt of the Chidlow Marsupial Hospital points out the features of the western brush wallaby.

Right: Hands-on experience for secondary school students learning about CALM's Western Shield threatened species project. Mixing bait is all part of the research monitoring program.



EXPLORING THE HILLS FOREST EDUCATION PROGRAMS

Exploring The Hills Forest is a comprehensive package of exciting, action-packed conservation education programs for primary and secondary schools focusing on student participation. It includes:

Discovering The Hills Forest.

An exploration of the jarrah forest ecosystem which examines students' use of forest resources and shows them how to take action to lessen their impact on the forest.

"This program and quality resource package have become an invaluable and integral part of my teaching right across the curriculum."
Year 7 teacher, Mount Hawthorn Primary School

Catchment Carers' Trail.

A learning program about catchments and water resource management. An interactive walk trail focuses on issues such as salinity, erosion, dieback, fire and nature conservation. It also includes a tour of the Mundaring Weir and its history.

"Thank you for a wonderful experience. The trail was for many students the highlight of our camp. The phrase 'catchment sharers must be catchment carers' has real life significance for us now."

Year 5 teacher, Falls Road Primary School

Back from the Brink.

Raises awareness of Western Australia's threatened species and CALM's Western Shield project aimed at preventing further losses of native animals and restoring others on the brink of extinction.

"The Action Pack really caught my students' interest, created a sense of excitement and resulted in a great improvement in language skills and other curriculum areas."

Year 7 teacher, St Lawrence's Primary School

"The camp was a tremendous finale to our year and gave a true sense of realism to our studies on conservation."

Year 7 teacher, York District High School

Busy in the Forest.

An excursion that includes a sensory and rope walk trail and a chance to meet marsupials. This links with CALM's early childhood forest pack for the classroom.

"The program was perfectly aimed at the younger age group. It was beautifully organised—and just long enough, but not too long—for little minds to expand and absorb their natural surroundings."

Year 1 teacher, Matthew Gibney Catholic Primary School

Forest walks and Activities.

Year-round excursion activities for all age groups focusing on the forest environment, plants, birds, spiders, reptiles and invertebrates led by experts in each of these fields.

Aboriginal Culture Excursions.

Aboriginal Leaders explore traditional Aboriginal culture in the jarrah forest including a bush walk to find out about traditional use of plants and animals, Aboriginal Dreaming stories, language and artefact making.

"It was great to see the excellent rapport which developed so quickly between students and CALM's Aboriginal Leader through the hands-on activities in the forest . . . a good basis for mutual understanding of two cultures."

Year 9 teacher, Lynwood Senior High School

School Camps in the Forest.

An opportunity for school groups to be involved in any of the environmental education activities offered by The Hills Forest.

Secondary School Programs.

Excursions about the jarrah forest ecosystem and the Western Shield Project, designed for Society and Environment (Biology/Ecology) and Science (Geography) students.

This year teachers can 'Be a CALM Nature Conservation Officer for a Night', and then return to school to spread the word on the importance of maintaining biodiversity and saving threatened species.

BEYOND THE FOREST

The Hills Forest is only one of many CALM sites offering educational

opportunities to schools around the State.

The Forest Heritage Centre in Dwellingup is a window into the world of the jarrah forest.

For schools close to the coast, CALM offers an experience of a marine touch pool, visits to Penguin Island and other educational packages based on marine and coastal themes.

CALM District and Regional staff offer talks and organise visits to special camps and CALM-managed land. Other than State forests, CALM manages national parks, nature reserves and marine parks, which together make up approximately 10 per cent of Western Australia. An understanding of how these other areas are managed is crucial for their future.

Addressing this need is a growing new conservation cadet scheme for secondary school students, the CALM Bush Rangers (see 'New Conservation Cadet Scheme for WA Youth', *LANDSCOPE*, Spring 1998). This

Left: A boot-cleaning station promotes the importance of restricting the spread of dieback disease.

program promotes involvement in practical projects in the natural environment and gives Bush Rangers the basic skills needed to make them good environmental citizens.

VOTING WITH THEIR FEET

Perhaps the most significant endorsement of the value of the *Exploring the Hills Forest* programs is that it is becoming increasingly difficult to meet the rapidly growing demand for all excursions. Numbers of students taking part increased from 250 in 1993 to more than 14,000 in 1998, with an additional 1,500 teachers and other adults accompanying the students in that year. Since the program's inception, more than 36,000 students and teachers have participated.

In only three years of operating the *Back from the Brink* program, thousands of students have used the Action Pack and hundreds have participated in camps.

Constant feedback and assessment are a significant part of how programs, resource packages and excursions are improved and expanded. There are ongoing assessments by teachers,



Right: Taking cover in a mia mia, secondary students role-play as a way of learning about traditional Aboriginal culture.

Below right: Secondary science students determine the plant species and abundance in a quadrat of the jarrah forest.

Photos – Liz Moore/CALM

students and colleagues, and in addition outside agencies are engaged to professionally evaluate the programs. These evaluations have indicated that the activities tap environmental concerns and contribute significantly to young people becoming more aware of vital conservation issues.

A TEAM EFFORT

The development of the schools program at The Hills Forest has been a team effort, with contributions coming not only from CALM but also from industry, community groups, schools, funding bodies, other Government Departments, and individuals who know the value of opening young minds to our natural heritage.

The forest may be a natural classroom, but with more than 15,000 pairs of feet now visiting the area annually, some energy has to be directed towards preventing environmental degradation. In response to this need, pathways and trails have been built by Westrek, Green Corps and the Australian Trust for Conservation Volunteers (programs designed to retrain youth in the area of conservation).

Schools have played an important role in helping to develop ideas and trial activities. Falls Road Primary School teachers and students sourced funding for and trialed the Catchment Carers' Trail. Walliston and Parkerville Primary Schools were awarded grants by the World Wide Fund for Nature for the *Back from the Brink* program.

Applecross Primary School has raised funds three years in succession for The Hills Forest conservation activities. Thanks to them, hundreds of nesting boxes, cockatoo tubes, bat roosts and underground dens have been established to create homes for native species in the forest. In addition, their funding has contributed towards 4,000



students each year becoming more aware of the causes of salinity.

The Eastern Hills Wildflower Society, the Down to Earth Foundation and ICI Australia provided sponsorship and grants to support the programs and to assist those who otherwise could not afford to travel the distance.

The Education Department and Healthway funding led to the establishment of the *Aboriginal Culture Excursion* program.

A partnership between the Water Corporation and CALM is ensuring the success of a program that promotes the care of water catchments and the part that forests play in ensuring water quality.

DOWN THE TRACK

Most Western Australians lead urban or suburban lives with little opportunity or time to be in natural places. As a result few of us understand

our dependence and impact on the sustaining cycles beyond the bounds of our cities.

An appreciation of nature and its conservation must be priorities in the next millennium.

CALM believes it is of prime importance to assist the next generation to contribute to informed management of WA's wild places. Every young person should have many opportunities for special experiences . . . out there. The Hills Forest's programs will continue to provide these experiences for our youth.

Elizabeth Moore is the Community Education Officer who manages the 'Exploring The Hills Forest' educational programs and the Western Shield School Education Program. She can be contacted on (08) 9334 0387 or email: (lizm@calm.wa.gov.au).

Winner of the 1998 Alex Harris Medal for excellence in science and environment reporting.

LANDSCOPE



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In 'Photographing a Temperate Wonderland' (page 10), photographers Sue Morrison and Ann Storrie share their experiences.



In 'Those Spotted Things' (page 22), we see how fox-baiting and captive breeding continues to swell populations of this popular native mammal.



Snakes. You either love them or hate them, but how do we live with them? See story on page 45.



Many farmers and landowners are turning to plantation pine for a variety of good reasons. Five of them tell us why. See 'A Crop of Forests' on page 38.



As habitat changes, so do species populations. But just when does a species become threatened? See 'Healing the Land' on page 49.

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The magnificent gorges of Karijini National Park are a refreshing retreat from the arid plains above. They also have a fascinating geological history. See story on page 28.



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