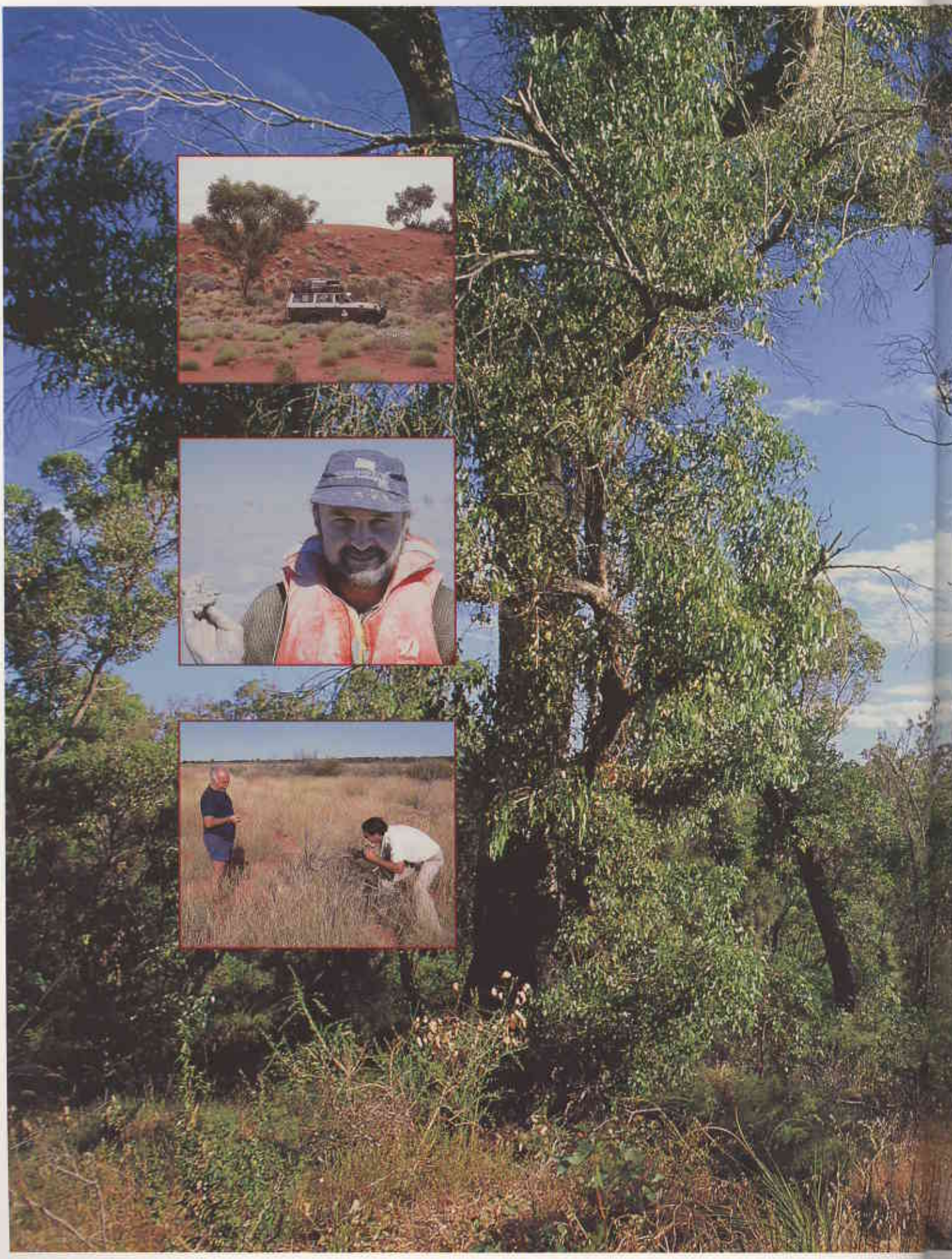
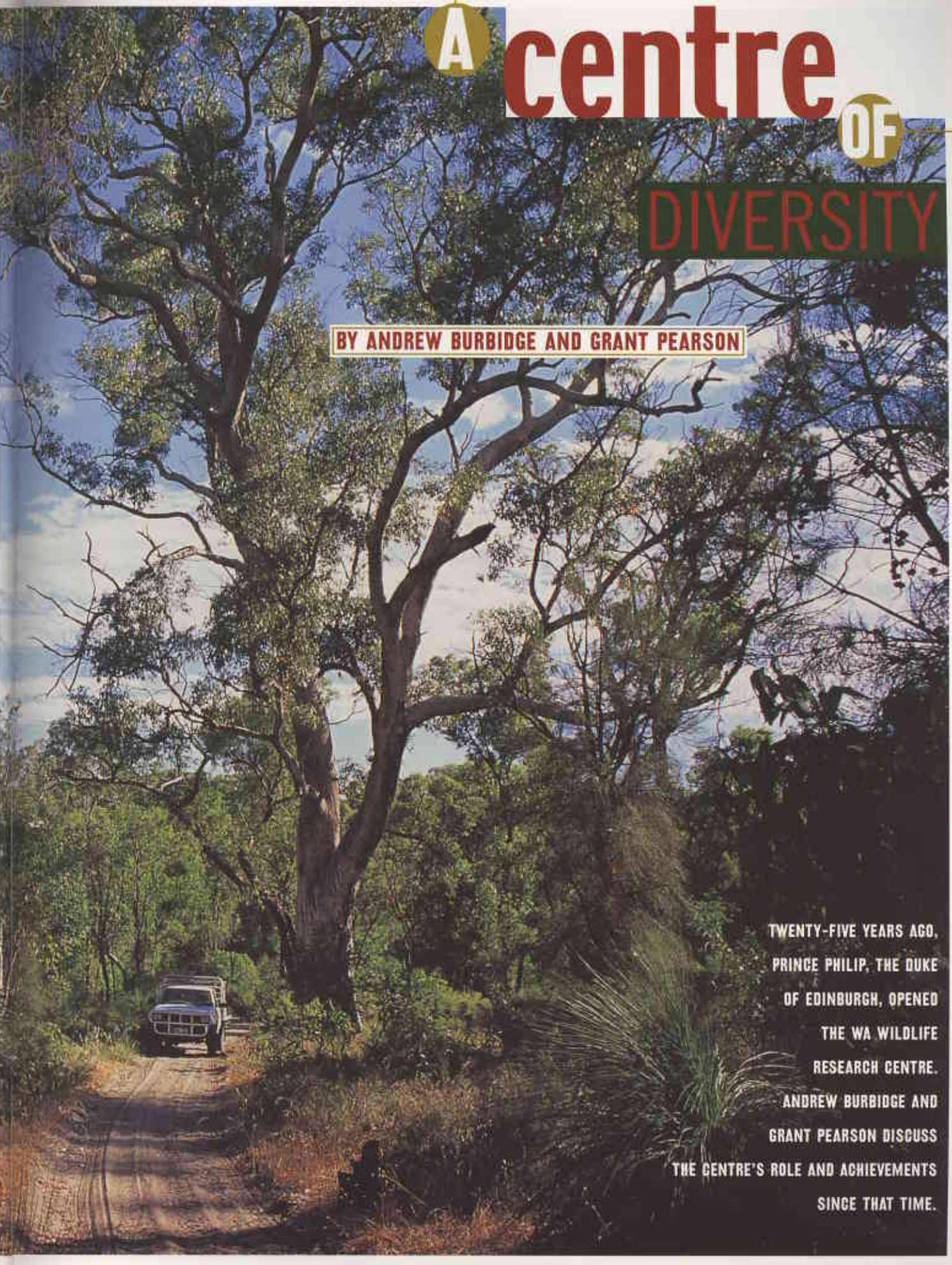


A centre of DIVERSITY

BY ANDREW BURBIDGE AND GRANT PEARSON



TWENTY-FIVE YEARS AGO, PRINCE PHILIP, THE DUKE OF EDINBURGH, OPENED THE WA WILDLIFE RESEARCH CENTRE. ANDREW BURBIDGE AND GRANT PEARSON DISCUSS THE CENTRE'S ROLE AND ACHIEVEMENTS SINCE THAT TIME.

It takes a great deal of enterprise to launch a major nature conservation initiative in Western Australia. The Department of Conservation and Land Management (CALM) must supply or seek out funding, commit operational staff to the job on a long-term basis, and monitor the work for the duration of the program. Usually, before any of this can happen, CALM scientists must conduct meticulous research, often for years, into solving the conservation problem.

We often hear about the big nature conservation stories, but most progress in this area is incremental and unsung. It depends on the gradual accumulation of knowledge from careful observation and experiment, followed by changes in policy and procedures. This work is just as important as the major initiatives, and depends for its success on the expertise and experience of scientists working all over the State.

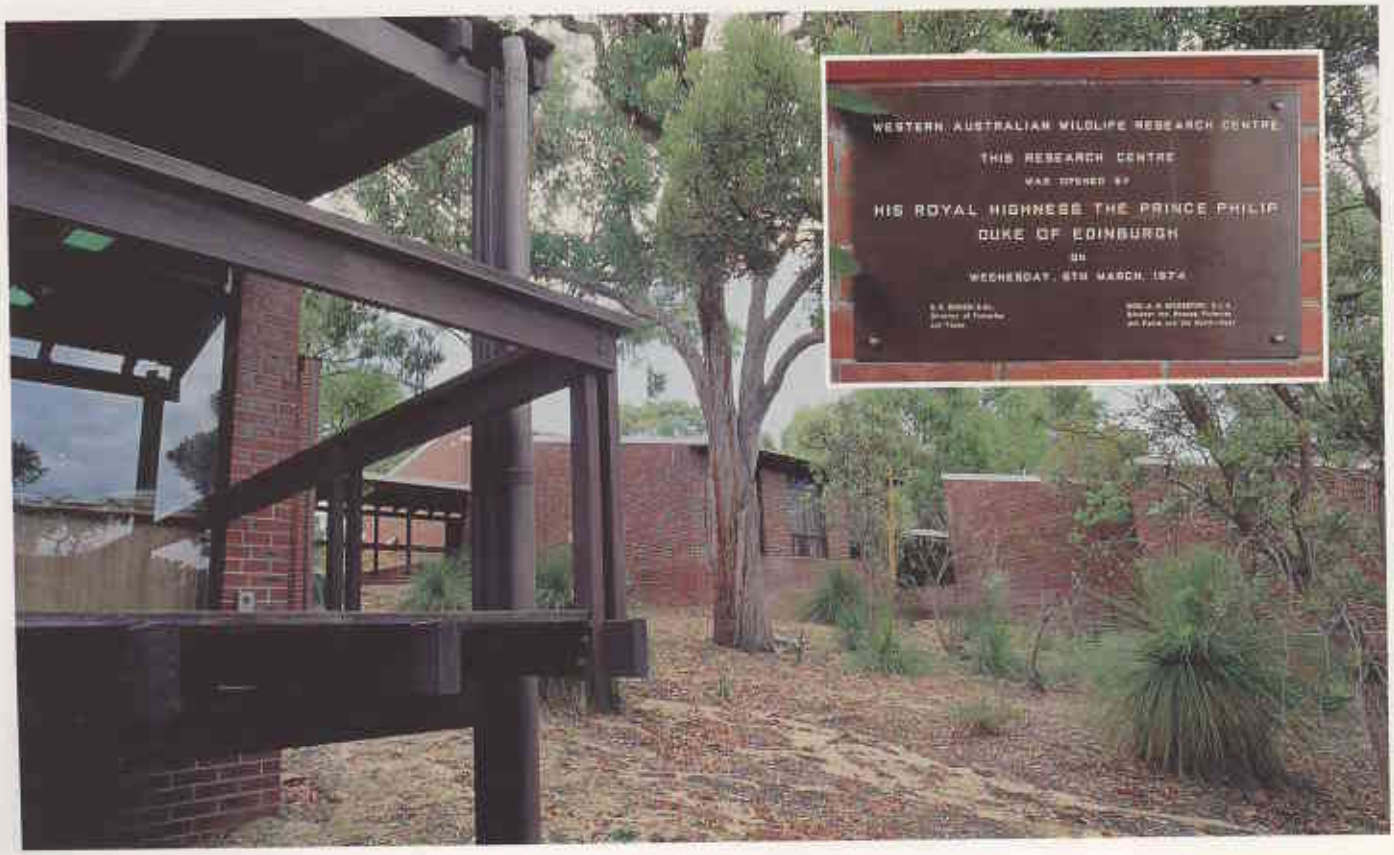
There are several centres of respected scientific work within the Department, none more so than the Western Australian Wildlife Research Centre. It features in program after program and, indeed, in story after story in *LANDSCOPE*. Located in the middle of a bush block in suburban Woodvale, the Centre houses staff from CALM's CALMScience and Nature Conservation Divisions. The 70 staff based there work all over WA. People who drive along the northern section of the Mitchell Freeway pass the land in which the Centre's buildings are found, but few of them realise it is there. Fewer still know the extent or importance of the work it does.

Scientific research undertaken by the Centre's staff over the past 25 years has led to many major achievements in nature conservation in Western Australia. The development of *Western Shield* and *Western Everlasting*, the

Previous page
Main: Management track on Woodvale Nature Reserve.
Photo – Chris Garnett/CALM
Insets: (top) Survey work in the Great Sandy Desert, May 1979.
Photo – Andrew Burbidge/CALM
(centre) Grant Pearson working in the mudflats at Roebuck Bay.
Photo – Theunis Piersma
(bottom) Tony Start and Phil Fuller looking at a black honeyeater's nest in the Gibson Desert.
Photo – Andrew Burbidge/CALM

Right: Woodvale Nature Reserve in a sea of suburbia.
Photo – Grant Pearson/CALM

Below: The Centre's buildings blend into the surrounding bushland.
Inset: A plaque in the foyer of the Centre commemorates the official opening in March 1974.
Photos – Chris Garnett/CALM



declaration of many new national parks, nature reserves and other conservation areas, the recovery of threatened species and ecological communities, the better management of bushland areas, wetlands and islands, the conservation of kangaroos and waterfowl, the sustainable management of nature-based industries and a better understanding of the role of feral animals in the extinction and decline of indigenous species—these are just some of the results of work carried out at the Centre. Its staff have been involved in many conservation initiatives; the fight to prevent mining in Fitzgerald River and Lesueur National Parks are just two. One important role of the Centre's staff has been to communicate their knowledge of the State's biota, and many authored or co-authored articles published in *LANDSCOPE* have been one result.

GETTING UNDER WAY

When it was officially opened on 6 March 1974, the Western Australian Wildlife Research Centre was part of the Department of Fisheries and Fauna (later Fisheries and Wildlife) and housed about 15 research staff, working on waterfowl and kangaroo management, biological surveys, threatened fauna conservation and nature reserve management techniques. It soon became recognised as a major centre for applied fauna research and, as responsibilities widened, for research into the conservation of the State's flora as well. By the early 1980s, research areas included wetlands and waterbirds, numbat, western swamp tortoise and other threatened fauna conservation, kangaroo management, nature reserve and species inventory, nature reserve management, feral predator effects and fire ecology. In 1983, because of extreme overcrowding, a new wing was added to the building, together with a library building.

In 1985, when CALM was created, wildlife research staff joined the new Department. Since then, the number of staff housed at the Centre has continued to grow and new research areas have been investigated. In 1992, CALM's WA Threatened Species and Communities Unit (WATSCU), which was created to coordinate and assist with the conservation of threatened species and ecological communities, was based at the Centre.

Top: Native vegetation has been retained wherever possible.

Above: (from left) Mike Churches, Greg Keighery, Neil Gibson, Jill Pryde and Andy Williams enjoy a well-earned break.

Photos – Chris Garnett/CALM

IN A SEA OF SUBURBIA

When it was built, the Centre was located in bushland with adjacent farms and uncleared land. During the 1980s and 1990s, housing subdivisions in the Woodvale area, the extension of the Mitchell Freeway and the construction of the northern suburbs railway meant that the Woodvale Nature Reserve was no longer surrounded by bush and pasture, but by houses, roads, cars and trains. It had become a bush remnant in a sea of suburbia.

This has created a number of unique problems for Centre managers. Apart from the obvious security concerns that come with operating in an urban area, the threat to the Centre from wildfire is real and ever present, especially in summer. One of management's dilemmas has been to balance the desire to maintain low fire fuel levels around the buildings to protect life and property with the protection of the surrounding bushland from frequent fire. In recent years, this has been achieved by creating low-fuel zones around buildings and the reserve's boundaries and well-maintained firebreaks, as well as hand weeding in areas of high conservation value bush.

Volunteers assisting in a survey of Boonderoo Lake, November 1998. Photo – Grant Pearson/CALM

CURRENT ACTIVITIES

Most of the scientific programs undertaken by Wildlife Research Centre scientists and technical support staff are based in the field, rather than in the laboratory. This has taken staff to most of the remote corners of the State as well as to more familiar territory nearer Perth. Research has been undertaken in the Kimberley, Pilbara and deserts, as well as in the floristically rich kwongan of the south-west. In recent years, there has been an increase in research activity in forested areas, particularly the jarrah forest and wandoo woodlands. A major research program—the Kingston Study—is currently investigating the effects of logging on threatened animals (see *LANDSCOPE*, Summer 1998–99).

Parts of *Western Shield*, CALM's introduced predator control and fauna conservation program, are operated primarily from the Research Centre, in particular the translocation of threatened animals, research into the effects of fox control and research into feral cat control techniques. Similar programs are under way as part of CALM's *Western Everlasting* (see page 22 in this issue) to assist with the conservation and recovery of threatened WA native plants.

A wide variety of other projects is under way. For example, studies on the effects of the rabbit calicivirus disease on native ecosystems in WA have been coordinated from the Centre (see *LANDSCOPE*, Winter 1998). And a large program, associated with the Perth BushPlan, is providing the detailed scientific information required for the management of nature conservation values of remnant bushland and regional parks in and around Perth.

One of the Centre's earliest research programs focused around a very active recreational duck-hunting fraternity. Duck hunters, through their game associations, were active in wetland and waterfowl conservation issues. They supported research programs aimed at promoting waterfowl breeding and wetland maintenance through the purchase of duck-hunting licences and their own member-based operations. Although recreational duck hunting is no longer a legal pursuit in WA, the concerns for conservation and management of our vital rivers and wetlands continue. Several important programs are operated from the Centre with the aim of gaining a better understanding of wetland ecosystems and providing managers with conservation techniques and advice.

The problems of encroaching salinity in farmlands, and the resulting degradation of wetlands in the south-west of the State, have generated much concern and interest in recent years. As part of the WA Government's Salinity Action Plan, Centre researchers are surveying flora and fauna to provide a regional perspective on nature conservation values in selected water catchments of the Wheatbelt. This will help determine and prioritise management actions in relation to increased salinity. Researchers from the Wildlife Research Centre are working collaboratively with scientists from Universities and other land management agencies on this project.

Marine fauna, mainly turtles and seabirds, is included in research carried out by Centre staff. A program over recent years has involved volunteers along the Kimberley and Pilbara coasts to tag and monitor turtle populations. This is ongoing and provides members of the public with an opportunity to participate in valuable and interesting work.

Western Australia occupies about one third of the land mass of Australia, and CALM manages land and water for nature conservation with a total area

more than three times that of the whole of Tasmania. Biological surveys of these reserves and the regions they occupy have been undertaken over the years to identify gaps in the reserve network and to help provide an inventory of the State's biota. Much of this work has been managed and directed from the Wildlife Research Centre, often in cooperation with scientists from other CALMScience centres, the WA Museum of Natural Science and other research organisations.

Land dedicated to nature conservation needs management to ensure that its values are protected. Many research programs have addressed issues relating to natural changes in ecosystems and species abundance over time, the effects and use of fire, the control of feral animals and weeds, and the conservation of particular species and communities of high conservation value.

WATSCU

The WA Threatened Species and Communities Unit (WATSCU), part of CALM's Nature Conservation Division, is housed at the Centre. It coordinates the conservation of the State's threatened species and threatened ecological communities, particularly through the 'recovery process'—identifying threatened species and communities, prioritising species and communities for conservation action, setting up recovery teams, and preparing and implementing recovery plans.

WATSCU staff currently concentrate on the most threatened species and ecological communities—those ranked as 'critically endangered' according to World Conservation Union criteria. With more than 100 such species and communities, the need to institute effective conservation programs is urgent. Sound scientific knowledge about threatening processes, species biology and ecology, and community dynamics is vital, and interaction between CALMScience and WATSCU staff at the Centre has been most beneficial.

RESOURCES

The Centre's most important resource is its staff and volunteers. CALM is committed to management based on high-quality scientific research and knowledge. It employs permanent scientists and technical support staff, many of whom are based at the Centre. With an increasing dependence on external funding, there are also many temporary staff working on specific projects, while at the same time gaining experience in nature conservation and applied science. Scientists at the Wildlife Research Centre work closely with CALM scientists based at other centres around the State—at the Como Research Centre and the WA Herbarium, and at Dwellingup, Busselton, Manjimup, Albany and Karratha.

Wildlife Research Centre staff have a wide range of expertise and knowledge. People based there are acknowledged experts in areas as diverse as marsupials, bats, native rodents, dugong, birds, pythons, tortoises and turtles, desert reptiles, bushland weeds, native orchids, mistletoes, threatened flora, butterflies, wetland

Below left: Greg Keighery sorting samples collected in the Wheatbelt for the Salinity Action Plan.

Below: Librarian Lisa Wright presides over an invaluable collection.
Photos – Chris Garnett/CALM

invertebrate fauna, animal handling and trapping techniques, threatened ecological communities, data analysis and computing. And they depend on the hard-working library and administrative support staff to ensure that all runs smoothly and efficiently.

There are also many cooperative research programs with scientists from Universities, CSIRO, other State conservation agencies and many other organisations. There was one such project recently with Curtin University, the Netherlands Institute for Sea Research, and Birds Australia's Broome Bird Observatory, which resulted in the collection of important baseline data on the marine invertebrates of tropical intertidal marine embayments such as Roebuck Bay and King Sound (see 'The Teeming Mud of Roebuck Bay', *LANDSCOPE*, Winter 1998). Indeed, many of the expeditions to remote beaches to trap, band and measure trans-equatorial migratory shorebirds have depended upon the logistical support provided by researchers from the Wildlife Research Centre.

CALM operates a very successful volunteer program, and many people have assisted with science projects over the years. Public participation rates are high, with some projects depending heavily on volunteer support. The Wildlife Research Centre at Woodvale maintains a register of those people interested in providing help and attempts to place as many keen volunteers as possible in interesting research programs. School work-experience students are similarly supported when possible. Many students have gained valuable experience of science projects and progressed on to tertiary studies to pursue a career in a fulfilling and exciting field.

The WA Wildlife Research Centre provides a 'home base' for its resident researchers and associates to foster and benefit the conservation of Western Australia's unique flora, fauna and ecosystems. As a vital piece in the jigsaw of CALM's total nature conservation work, the Centre continues to provide an essential focus for knowledge about our priceless wildlife heritage and its conservation needs.

Top: Dorian Moro, Tony Start and Andrew Burbidge preparing to pit-trap mammals on Boullanger Island, September 1998.
Photo – Grant Pearson/CALM

Above: Some of the varied equipment needed for a botanical survey of the flooded Lake Muir wetlands.
Photo – Grant Pearson/CALM

Right: Keith Morris measuring a small mammal on Peron Peninsula, Shark Bay.
Photo – Peter Speldewinde/CALM

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

LANDSCOPE

VOLUME FOURTEEN NUMBER 3, AUTUMN 1999

Western Everlasting, see page 22, follows the same successful approach to protecting threatened plants as Western Shield did for mammals.

Beneath its black and burnt exterior, the common balga is giving up its secrets. See 'Believing the Balga' on page 10.

For 25 years, CALM's Wildlife Research Centre in Woodvale has been 'A Centre of Diversity'. See page 36.

The spectacular coastline of Torndirrup National Park has been years in the making. See page 28.

Read how locals, CALM and other agencies are working together to save the Lake Muir-Unicup wetlands. See page 49.

FEATURES

REGULARS

COVER

'Moving Mala' (page 17) tells the story of the translocation of these endangered mammals from Australia's Central Desert Region to a small island off WA's north coast.

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