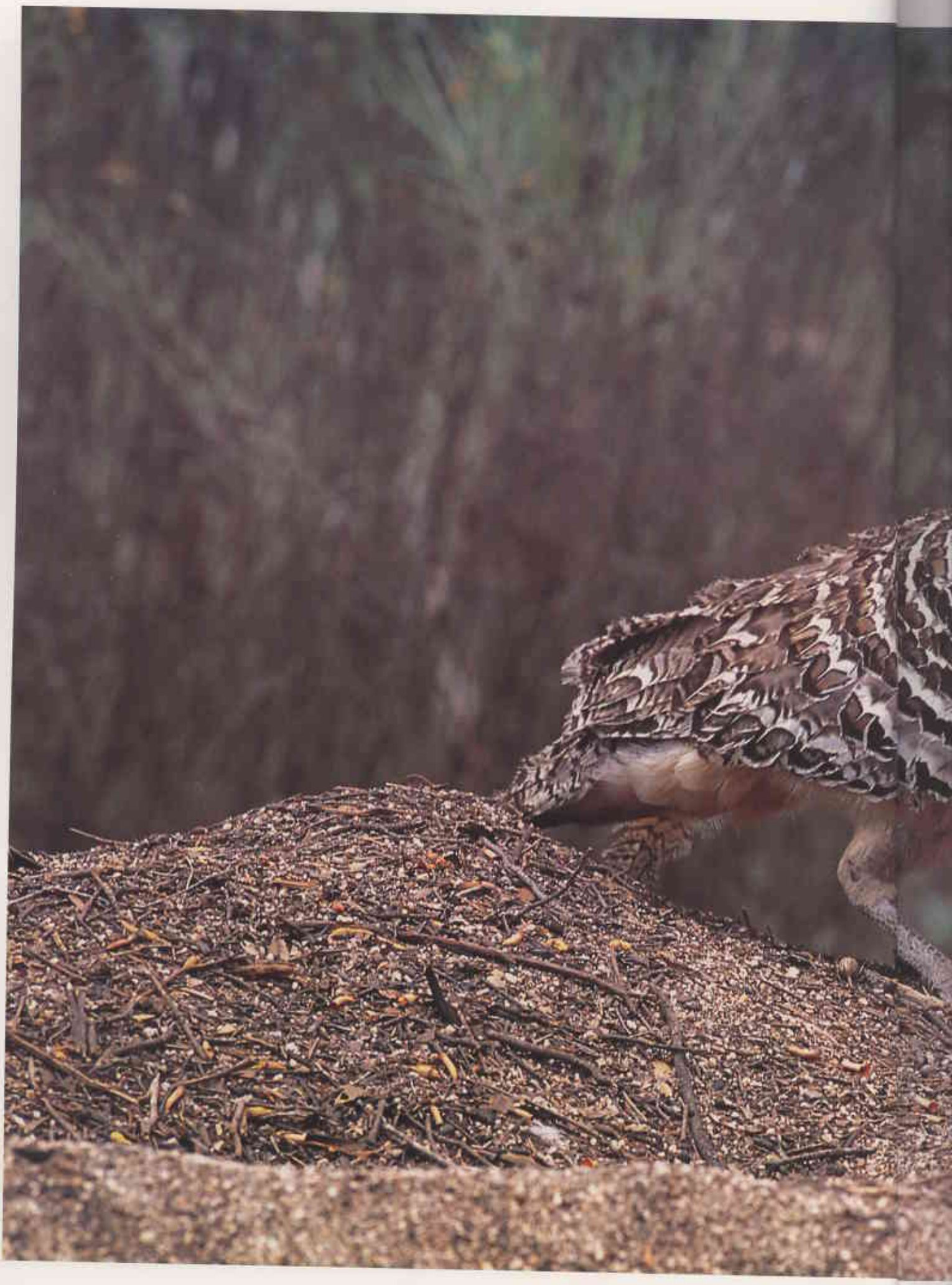


WORKING TOGETHER

Throughout Western Australia, recovery teams are working to bring many threatened plant and animal species—and in one case a complete ecosystem—back from the brink of extinction. The key to success for these conservation programs is the diversity of their participants. Government, corporate and community representatives are working together and finding that the benefits are broader than the preservation of a threatened species or ecosystem.

by John Blyth, Andrew Burbidge, Andrew Brown and Kate Hooper

There are more than 300 plant species and 100 animal species that are either presumed extinct or threatened with extinction in Western Australia. For most people, pride in our natural heritage is sufficient reason to preserve these species, but there are also sound social and economic reasons for spending our scarce conservation dollars on preserving them. Animals and plants are vital components of the life-support systems of our planet that generate oxygen, remove waste products, regulate fresh water supplies, control pests and diseases, and pollinate crops. They supply us with food, shelter, clothing and medicine; not to mention the aesthetic pleasure and recreation they provide.

Because our animals and plants represent such a priceless resource, the extinction of any species constitutes a significant loss. By maintaining the diversity of landscapes, ecosystems, species and genetic material that currently exist on Earth, we are investing in our future (see 'Threatened with Extinction', *LANDSCOPE*, Spring 1993).

But what is the most effective way to do this? Setting aside important areas as conservation reserves, although vital, cannot conserve all biological diversity. In Western Australia, for example, 70 per cent of populations of threatened plants and 25 per cent of threatened species of animals are not currently within any conservation reserve. Therefore, our conservation efforts need to extend to all types of land, whatever their current use. Many animals move about—it's an inherent part of their behaviour—and in some cases conservation reserves provide only part of their required habitat. In the case of plants, the wide separation between (often small) populations within reserves may result in genetic isolation. Furthermore, because many conservation reserves are now isolated remnants, they are affected by the use of the land around them. For example, no amount of good management can protect a remnant of native vegetation if saline ground waters rise as a result of clearing the surrounding land (see 'Healthy Farmland, Healthy Bushland', *LANDSCOPE*, Autumn 1995).

THE COMMUNITY AND CONSERVATION

Thus, although the conservation reserve system remains the basis for nature conservation in Western Australia, the involvement of other land managers and the whole community is essential to ensure the protection of threatened species and biological diversity. There are benefits for land-holders and for nature conservation in simply adopting good land care practices such as planting native trees for wind breaks or water use, and controlling feral animals. Private land owners can also help directly with nature conservation by fencing remnants of native vegetation on their farms, establishing corridors of native vegetation between existing remnants and carefully managing land adjoining conservation areas.

In the case of highly threatened species and ecological communities, urgent action is often required to bring them back from the edge of extinction and increase their range and abundance. In these cases, a specific conservation program is employed. Such 'recovery plans' define a set of objectives, actions and criteria for success. The recovery plan is prepared, implemented and monitored by a recovery team, which normally includes landowners or their representatives,

Previous page
In Western Australia, farmers and other members of local communities are leading the way in efforts to conserve the vulnerable malleefowl.
Photo – Simon Nevill

Like many red-flowered plants, the threatened rose mallee is pollinated by honeyeaters: on this occasion, a singing honeyeater.
Photo – Babs & Bert Wells/CALM

scientists, representatives of major sponsors, members of local community groups, local government and other interest groups, all of whom contribute their knowledge and expertise to the process. Good cooperation between all those involved, can make the difference between the success and failure of a conservation program.

Twenty-one recovery teams have been set up in Western Australia by the Department of Conservation and Land Management (CALM) and more are planned. Together with many other Western Australians, staff from CALM are also involved in several other recovery plans being led by conservation agencies in other States.

Most of the rose mallees surviving in the wild are now in highly modified paddocks or road verges.
Photo – Babs & Bert Wells/ CALM

Below right: The male malleefowl does most of the work on the mound into which the female lays her outsized eggs.
Photo – Babs & Bert Wells/ CALM

RECOVERING THE ROSE MALLEE

One of Western Australia's most striking rare plants is the subject of a recovery plan. The rose mallee (*Eucalyptus rhodantha*) is a low spreading mallee, which grows up to four metres tall. It is easily recognised by its silvery grey circular leaves and large bright-red to pink (rarely, creamy yellow) flowers. It is well known in the horticultural industry, and widely cultivated, but is now very rare in the wild. The plant was almost certainly once common and widespread in the northern Wheatbelt, but extensive clearing of native vegetation for agriculture has resulted in the species being reduced to a few isolated remnants. Only three wild populations remain on relatively undisturbed private property near Watheroo, the others being found in cleared and grazed paddocks or degraded road verges.

The rose mallee is gazetted as declared rare flora and so is afforded special legal protection. However, because most of the remaining plants grow on private land, its survival in the wild depends on the foresight, goodwill and assistance of private landowners, Shire Councils and other agencies.

In 1992, a recovery team including representatives from CALM, the University of Western Australia, Kings Park and Botanic Garden, local government, landowners and industry was set up. The recovery plan, which will run for 10 years, aims to ensure the species' survival in the wild partly by the purchase of land where the largest stands of rose mallee remain for declaration as a nature reserve. Several other populations and their surrounding habitat will also be rehabilitated. For example, at Three Springs an important stand will be rejuvenated by reducing weeds, installing rabbit-proof fencing and introducing other plant species that support pollinators. The number of rose mallees at the site will also be increased by planting seedlings propagated at the RGC Mineral Sands Nursery at Eneabba. An adjoining gravel pit has been landscaped in preparation for seedling introduction.

Most of the rose mallees will remain on private land, and local farmers who own land with rose mallee populations are enthusiastic about retaining them. Local landowners have already been involved in fence erection and planting trees to control salinity, and they will continue to manage many of the stands. In fact, it is through the vigilance of local farmer Bob Scott, who is a member of the rose mallee recovery team, that five previously unknown populations of rose mallee were discovered on his property, north-east of Watheroo. This discovery has significantly improved the chances of survival of the species.

'My family has looked after the rose mallees for more than thirty years,' says Mr Scott. 'My mother was keenly interested in protecting these plants and we had fenced the sheep out of a small area where they grew. Through the recovery plan, we've been able to extend the fencing and replant seedlings among the existing stand. There's no doubt the recovery plan is working well, and it has plenty of local support.'

This support is important because it will not only conserve an important part of the community's natural heritage—the floral emblem for the Shire of Three Springs—but also contribute to better land care in the area.

RECOVERING THE MALLEEFOWL

One conservation program that has developed entirely out of the efforts of the local community is a campaign to recover the malleefowl (*Leipoa ocellata*) in part of the southern Wheatbelt. The malleefowl is a large, attractive bird, best-known for building a remarkable incubation mound for its eggs. These rounded mounds are often used repeatedly, growing in size over the years to as much as five metres wide and a metre high. The malleefowl was originally widely distributed in woodlands and shrublands across southern Australia, but has declined throughout its range, especially in the eastern States. It is now listed as a vulnerable species, and a national recovery team, on which CALM is represented, has been established.

The malleefowl is well known in several communities on the southern, eastern and northern fringes of the Western Australian Wheatbelt, where it still occurs in many patches of remnant vegetation on farms, and its continuing decline is a source of concern to those communities. It has become the focus of an active recovery effort around Ongerup and Gnowangerup, with the formation there of the Malleefowl Preservation Group. (The local Nyoongar name for the malleefowl is *gnow*, and this is incorporated into the name Gnowangerup, which has the malleefowl as its faunal emblem.) Although the Malleefowl Preservation Group receives some assistance from other community organisations such as the Royal Australasian Ornithologists Union and the National Threatened Species Network, as well as from CALM and the Perth Zoo,

Above right: This is an unusual position for a malleefowl mound. Most of them are built in areas with good overhead canopy cover.
Photo – Simon Nevill

Below: Tree planting, and other land care initiatives, by farmers in the Toolibin Lake catchment will be the key to long-term protection of this internationally important wetland.
Photo – Kim Howe

Below right: The conservation of much of the white-bellied frog habitat is being achieved by voluntary fencing of boggy creeklines by landowners.
Photo – Grant Wardell-Johnson

its secretary, Susanne Dennings, says it is very much a grassroots organisation, with most of the members being farmers on whose properties malleefowl presently occur, or where suitable habitat remains.

'We are just a small community group, with about 90 per cent of our work carried out on a volunteer basis, but we hope this project will inspire a sense of pride in our area. The key to malleefowl survival is community awareness,' says Ms Dennings.

The Malleefowl Preservation Group has been active since 1992 and now has more than 260 members. The group has many significant achievements to its credit in that short time. These include a regular fox-baiting program by local landowners, and surveying, griding and monitoring several areas where malleefowl mounds occur. Ms Dennings says that through their local *Malleefowl Matters* newsletter and other initiatives, the group has succeeded in generating a great deal of interest in the conservation of the malleefowl and the vegetation on which it depends.

The recovery plan has had some success already, with birds appearing in areas that haven't seen them in thirty years.

'One of our surveys of active malleefowl mounds indicated a density higher than any other recorded in Australia, which is definitely a good sign,' says Ms Dennings. 'Unfortunately, this high population represents 95 per cent of the birds left in our Gnowangerup Shire. The habitat is only a small privately owned, isolated remnant. During the next three months, 21 kilometres of corridor fencing will be completed to connect this area to other reserves and a second isolated breeding population in the Kent Shire,' says Ms Dennings.

If these efforts become widely distributed throughout the range of the malleefowl, they could form the backbone of recovery efforts for the species nationally. They would also automatically contribute greatly to wider conservation aims, including the conservation of remnant vegetation in general and the sustainable use of agricultural land.

MULTIPLE BENEFITS

Although recovery plans are aimed at individual species or ecological communities, they usually have much broader benefits. For example, the recovery plan for two species of thumb-nail-sized frog will conserve valuable stream-side habitat that also harbours many other unusual species. The white-bellied frog (*Geocrinia alba*) and the orange-

bellied frog (*G. vitellina*) are two of the most geographically restricted vertebrate species known in mainland Australia. They occur in an area of a few square kilometres, in the high-rainfall region between Margaret River and Augusta (see 'Frogs: Value in Variety', *LANDSCOPE*, Spring 1994).

The restricted distributions of these two frog species mean they are particularly prone to extinction. Both species live in small wet depressions under leaf litter and vegetation, but clearing of native vegetation has greatly reduced the number of suitably damp frog swamps in the South West. The orange-bellied frog is confined to a tiny domain, which fortunately is within State forest, but 30 of the 38 known populations of the white-bellied frog occur on private land, and several populations have disappeared during the past few years. A recovery plan for protection of the frogs was prepared in 1991, and a recovery team, which includes representatives of the local Land Conservation District Committee (LCDC) and the Augusta-Margaret River Shire Council, was set up in 1992.

Ian Noakes, a member of the Blackwood River LCDC on the recovery team, says part of the recovery plan funding is being used for a fencing program involving landowners with frog populations on their land. 'The most important recovery action is to fence stream-side vegetation on private property that contains frog populations. Without protection from stock, these areas become degraded and the frogs disappear,' he says.

Although the frogs are specially protected under the Wildlife Conservation Act, the Act does not protect the habitat of threatened animals on private property, so public participation in the recovery plan is critical for its success. Landowners will be responsible for maintaining the fences, which local contractors will build. The construction cost of the fencing is met by the Commonwealth Government's Endangered Species Program.

'On my property there is a delta between two creeks where we have counted about thirty frogs. It's a good breeding area, so we don't want cattle walking through there,' says Mr Noakes.

About two hectares of this creek-land has been fenced under the recovery plan.

'In our area, people have been happy to take part in the recovery plan because there is a widespread appreciation of the broader benefits of preserving frog habitats. As well as protecting the frogs, the plan contributes to land conservation by protecting watercourses and the adjacent vegetation,' says Mr Noakes.

PROVIDING A FOCUS

In cases where co-operative management of individual farms and conservation reserves is needed to conserve a threatened species or ecological community, a recovery plan

Above right: The thumb-nail sized orange-bellied frog has the most restricted distribution of any Western Australian frog, occurring in a small area of State forest.
Photo – Grant Wardell-Johnson

Right: The recovery plan for Toolibin Lake is a race against time by farmers, scientists, government agencies and the local community to control salinity and to retain the extensive tree cover across the floor of the lake.
Photo – Kim Howe

can provide the necessary integration of strategies at a landscape scale.

In the case of Toolibin Lake, in the Arthur River system near Narrogin, the survival of the lake is intimately linked to the health of the farmland that surrounds it (see 'Recovering Lake Toolibin', *LANDSCOPE*, Spring 1994).

Toolibin is the last significant wooded wetland in the Wheatbelt, a landscape that will continue to degrade. The decline of the wetlands was the first sign of trouble facing the region's agricultural lands and remnant vegetation. Landowners, catchment groups, the mining company Alcoa of Australia and government agencies are now cooperating closely in a race against time to implement the Toolibin Lake Recovery Plan, which has the long-term aim of saving the lake and ensuring sustainable, productive use of the surrounding land. Progress towards this dual aim is well on the track.

Since the preparation of the recovery plan in 1994, well over half a million dollars have been spent on emergency works on the lake, and some new initiatives in the catchment. CALM and the Australian Nature Conservation Agency have contributed more than $380 000 and about $260 000 respectively. Other groups, including Alcoa of Australia, Agriculture Western Australia, Western Australian Water Authority, local farmers and catchments groups have also contributed money, time and other resources over many years, especially in relation to better management of the catchment. Further actions have been budgeted at approximately another $3 500 000 over the ten-year life span of the recovery plan.

Toolibin Lake provides an important opportunity to show that a rural community, including its government agency members, can overcome major land degradation problems on a catchment basis. Effective group action at Toolibin will not only protect an important wetland, it will also provide options for increasing individual farm productivity and a case study to guide action elsewhere in Australia.

John Blyth is a scientific adviser at CALM's Western Australian Threatened Species and Communities Unit (WATSCU). Andrew Burbidge is Director of WATSCU and Andrew Brown is the botanist in that group. They can be contacted on (09) 405 5128. Kate Hooper, a regular contributing editor to *LANDSCOPE*, now lives in the UK.

This article is based on a scientific paper by John Blyth, Andrew Burbidge and Andrew Brown, published in *Nature Conservation IV: The Role of Networks*, edited by D.A. Saunders, J.L. Craig & E.M. Mattiske (Surrey Beatty & Sons, Chipping Norton), in press.

The white-bellied frog occurs on 38 known sites between Augusta and Margaret River, of which 30 are on private property.
Photo – Grant Wardell-Johnson

LANDSCOPE

VOLUME ELEVEN NO. 3 AUTUMN ISSUE 1996

Thanks largely to CALM's fox-control programs, the recovery of the woylie has been so swift that the species has now been taken off the threatened fauna list (see page 10).

This killer whale, photographed at Ningaloo, is one of 36 marine mammals living off the WA coastline. Read about them on page 16.

LANDSCOPE *Expeditioners made some interesting discoveries during last year's expedition to Queen Victoria Spring. Read all about them on page 23.*

Spring flowers thrive on a moss carpet —one of the range of attractions on offer in the Porongurup National Park (see page 28).

The rose mallee is just one species benefiting from action by recovery teams working together for conservation (see page 36).

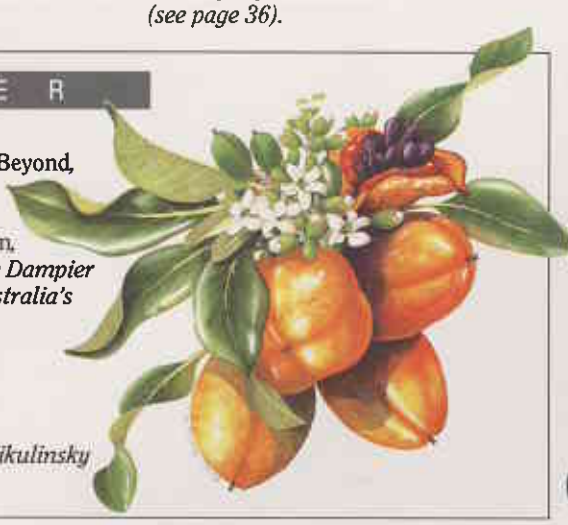
FEATURES

REGULARS

COVER

A new book, Broome and Beyond, *takes an in-depth look at the plants, such as this* Pittosporum molluccanum, *people and cultures of the Dampier Peninsula, in Western Australia's Kimberley Region. The story on page 48 takes a brief glimpse into this exciting new book.*

Illustration by Philippa Nikulinsky



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