



# Western Everlasting

A Vision for the Future

*So many species, so little time.*

*Conserving WA's threatened  
flora may at first seem to  
be an insurmountable task.*

*But CALM has a plan.  
It is called 'Western Everlasting'.*

**By Andrew Brown**

**T**he success of *Western Shield*, a feral predator control and threatened fauna recovery program initiated by the Department of Conservation and Land Management (CALM), has demonstrated that major, coordinated initiatives can revitalise and enhance nature conservation work. So, a similar initiative for the conservation of our State's threatened flora has been launched recently by the Western Australian government. The new program is called *Western Everlasting*.

For many years, Western Australia has deservedly advertised itself as 'The Wildflower State', and in some areas of south-west kwongan (heath) vegetation, such as are found in parts of Lesueur National Park, more than 100 different species can co-exist in an area of just 100 square metres. The south-west of WA is one of only 19 'megadiversity hotspots' in the world. With many thousands of different plant species found here, it is no wonder that the incredible richness of our flora has been internationally recognised. In this area, some 8,000 different plant species co-exist, about 70 per cent of which can be found nowhere else in the world.

Unfortunately, the extraordinarily rich kwongan and mallee communities of the south-west coincide with the area of greatest agricultural development. Known as the Wheatbelt, this area stretches from the west coast north of Geraldton to the south coast near Esperance. In all, about 15 million hectares (around 80 per cent) have been



cleared, which goes a long way towards explaining why so many plant species are currently threatened with extinction.

In 1998, 23 presumed extinct and 327 extant (still existing) flora were declared as 'threatened' in WA—most of them from the Wheatbelt area. Of these, 95 are ranked as 'Critically Endangered' according to international criteria. This means that they are facing an extremely high risk of extinction in the wild in the immediate future, if conservation initiatives are not put in place to protect them. Under *Western Everlasting*, CALM will ensure that the important conservation initiatives that are currently in place are built upon, to abate the threats to these species and begin the recovery process.

Obviously, the conservation of WA's wildflowers and their associated environments is very important for a number of reasons. First, we don't know what effect the loss of any

particular species will have on the natural processes on which plants and animals depend. Second, wildflowers and the environments in which they occur are a major tourist attraction. Third, the potential for the discovery of valuable pharmaceuticals in WA's rich and varied flora is enormous (one example under investigation is the anti-AIDS compound discovered in the smokebush (*Conospermum*) species, found only in this State). So, apart from the responsibility to protect flora biodiversity, any extinction or decline of species may rob us of new medicines as well as veterinary and agricultural chemicals.

## CALM AND FLORA CONSERVATION

State legislation to protect our native plants and animals dates back to the earliest days of the colonies. Since then, Australia has led the world in the development of legislation to conserve threatened species and ecological communities. Modern approaches to nature conservation began with the protection of all vertebrates in WA in the 1950s. The first provisions for general protection of all flowering plants and total protection for threatened plants, gazetted as 'rare (threatened) flora' on both public and private land in WA, were proclaimed in 1980.

CALM is the government agency responsible for flora conservation in WA. It operates under the provisions of the *Conservation and Land*

### Previous page

Pristine Australian bushland and fields of everlastings portray the essence of *Western Everlasting*. By working together to meet conservation objectives, our wildflower heritage will be conserved for future generations to enjoy.

Photo - Bill Bachman

Above: Beard's mallee is one WA threatened species that will benefit from conservation initiatives through *Western Everlasting*.

Photo - Andrew Brown/CALM

Left: The species-rich kwongan and mallee communities of the south-west coincide with the Wheatbelt, about 80 per cent of which has been cleared for agriculture.

Photo - Dennis Sarson/Lochman Transparencies



*Management Act 1984* and the *Wildlife Conservation Act 1950*. CALM also manages one of the largest areas of publicly owned conservation land in the world, as well as being involved in many off-reserve nature conservation initiatives.

The Department curates the State's flora collections, names new plant species, and carries out scientific studies into the conservation biology of threatened and other native plants. It is at the international forefront of scientific and operational work aimed at curtailing the devastating effects of the introduced plant pathogen *Phytophthora* (which causes dieback disease) on plant species, ecosystems and animal habitats.

CALM also stores seeds of threatened plants in the Threatened Flora Seed Centre, so that their irreplaceable genes will not be lost, and the plants can be reintroduced into the wild as methods become available to combat disease, weeds and other threatening processes.

CALM staff develop and market products like *LANDSCOPE* magazine and the *Bush Books* series, which increase public interest in seeing and identifying native plants, and educate people about nature conservation issues and the work being done to conserve plant life. CALM also prepares and implements recovery plans for threatened plants and ecological communities, ensuring that extinctions are halted and declines reversed.

## WESTERN EVERLASTING

Threatened flora management programs document which species of native plants are threatened, and which are poorly known and possibly threatened. They provide information on each species and lay down the management procedures needed to conserve them. *Western Everlasting* will finalise threatened flora management programs for each CALM region or district in the south-west of the State, and recovery teams will be appointed to coordinate their implementation.

Threatened Flora Conservation Officers will work with recovery team members drawn from local government, land holders, local wildflower societies and State government agencies, as well



as scientists with knowledge of flora conservation, to develop and implement 'recovery actions' that will protect the threatened flora species in each region or district.

Under *Western Everlasting*, CALM will continue to prepare interim recovery plans for all plant species ranked as Critically Endangered (10 were published in 1997, and a further 85 will be prepared by the end of 1999). The plans will be implemented as resources become available.

Each plan is for three years, so that time is available for research and the development of longer-term actions. If, after the three years, the plant species is still ranked as Critically Endangered, the interim recovery plan will be upgraded to a full recovery plan. Full recovery plans are usually written for ten-year periods and detail what needs

**Top:** Under *Western Everlasting*, CALM will ensure that interim recovery plans are prepared for all plants ranked as critically endangered. Pictured here is scarlet mountain bell, a plant confined to the Stirling Range National Park.  
Photo - Babs & Bert Wells/CALM

**Above:** Weeds are the greatest single threat to many populations of threatened flora. CALM will upgrade research to combat this threat.  
Photo - Jiri Lochman

to be done to increase the number of individuals and populations of a species, so it can be downlisted and eventually removed from threatened species lists.

Weeds remain the greatest single threat to many populations of threatened flora in WA. Under *Western Everlasting*, CALM will upgrade



scientific research projects aimed at finding the best and the most environmentally friendly way of controlling weeds that compete with threatened flora. The Department will also increase the spraying of phosphite to control the disastrous effects of *Phytophthora*. Dieback disease is a major threat to many native plant species, but research by CALM scientists has demonstrated that phosphite can prevent its spread in the wild and is safe in the natural environment.

As some threatened plants are now restricted to small degraded areas such as narrow road reserves, where they cannot survive in the long term, they need to be translocated. CALM staff will either grow them from seed or, in some cases, use tissue culture or other advanced plant propagation techniques. They will then move them to sites within conservation areas or private property with long-term security. In order to do this, CALM will upgrade and expand the



**Above left:** Golden catspaw is one of 350 plant species illustrated in *Western Australia's Threatened Flora*.  
Photo – Babs & Bert Wells/CALM

**Above:** Seed being collected from mountain paper heath for CALM's Threatened Flora Seed Centre.  
Photo – Ellen Hickman/CALM

**Left:** Prickly honeysuckle being translocated into a disused gravel pit. CALM will coordinate re-establishment using cultivated critically endangered flora.  
Photo – Leonie Monks/CALM



Threatened Flora Seed Centre. Seeds of threatened plants can be used to bolster existing populations and establish new populations in the wild.

Education and training are important aspects of *Western Everlasting*. The recently published book *Western Australia's Threatened Flora* (1998) is an excellent example of CALM's commitment to producing high-quality education resources. Dash stickers and posters, which illustrate and provide descriptive information on each Critically Endangered Flora species, will continue to be developed. Training of CALM Staff and volunteers will be stepped up, and, as some 2,000 species of WA flora have yet to be scientifically described, scientists at CALM's WA Herbarium will continue this vital work.

As many visitors to our State want to see and learn about the wealth of wildflowers we have, using the initiatives developed under *Western Everlasting*, CALM will help the Western Australian Tourism Commission and private nature-based tourism enterprises in a number of ways. The Department will assist in developing and marketing wildflower tours, and, as this burgeoning industry requires people who can describe and explain WA's wildflowers and their conservation, CALM will also train and accredit botanists to work with tour operators.

Many of the best wildflower areas are in national parks and nature reserves managed by CALM. Under *Western Everlasting*, selected areas will be developed for walk trails, and



interpretative materials will be supplied. These will enable visitors to gain an understanding of the diversity and conservation of our State's flora. CALM will also train and help volunteers to interpret these areas for visitors.

## WORKING TOGETHER

*Western Everlasting* is a government initiative, but governments can only do so much. Without public support and understanding of nature conservation programs, our wildflower heritage, and the State, will be all the poorer. CALM already works closely with many other government agencies, but business and industry, research institutes, conservation groups, private land owners and volunteers also play an important role. As well as discovering new populations of threatened flora, they assist in monitoring them. Volunteers are also helping CALM build a database of our flora and are processing many thousands of specimens for the WA Herbarium each year.

WA's threatened flora can and will be saved from extinction if we all work together to meet conservation objectives. *Western Everlasting* is a major step toward achieving these goals.

Andrew Brown is a botanist with CALM's Threatened Species and Communities Unit at the Wildlife Research Centre, Woodvale. He can be contacted by phone on (08) 9405 5166, by fax on (08) 9306 1066, or by e-mail ([andrewbr@calm.wa.gov.au](mailto:andrewbr@calm.wa.gov.au)).

**Above left:** Cinnamon sun orchid is one of many Western Australian species yet to be scientifically described. Scientists at CALM's WA Herbarium will continue this vital work.

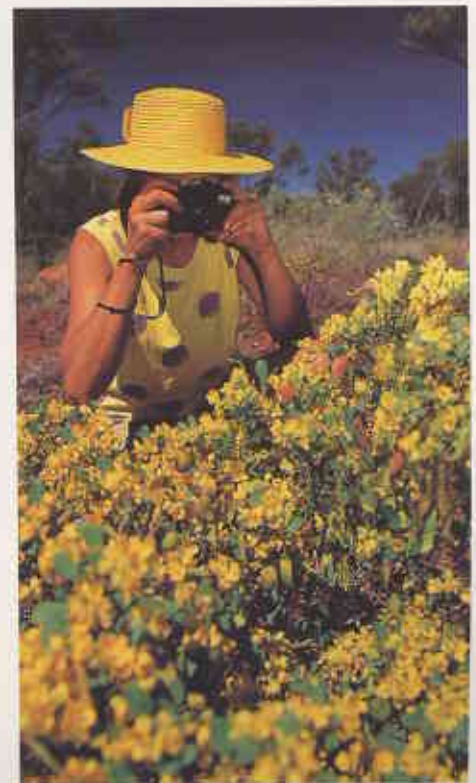
Photo - Noel Hoffman

**Above:** CALM, the City of Albany and the property owner working together to fence a population of the critically endangered Maxwell's grevillea.

Photo - Ellen Hickman/CALM

**Below:** Under *Western Everlasting*, CALM will assist in the development and marketing of wildflower tours that promote our spectacular flora.

Photo - Bill Bachman



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.*

## F E A T U R E S

**BELIEVING THE BALGA**  
DAVID WARD & RICK SNEEUWJAGT.....10

**MOVING MALA**  
ANDREW BURBIDGE, DON LANGFORD & PHIL FULLER .....17

**WESTERN EVERLASTING**  
ANDREW BROWN.....22

**TORNDIRRUP NATIONAL PARK**  
IAN HERFORD.....28

**A CENTRE OF DIVERSITY**  
ANDREW BURBIDGE, GRANT PEARSON & KEITH MORRIS.....36

**SAVING THE SWAMPS**  
MANDY CLEWS.....43

**DWELLINGUP'S SCHOOL OF WOOD**  
PENNY WALSH.....49

## R E G U L A R S

**BUSH TELEGRAPH**.....4

**ENDANGERED**  
LIGNUM AND SAMPHIRE FRESHWATER WETLANDS.....48

**URBAN ANTICS**  
INCY WINCY SPIDERS.....54

## C O V E R

*'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.*

*Illustration by Philippa Nikulinsky*



**Executive Editor:** Ron Kawalilak  
**Managing Editor:** Ray Bailey  
**Editor:** David Gough  
**Story Editors:** Ray Bailey, Mandy Clews, Verna Costello, David Gough, Louise Johnson, Mitzi Vance, Penny Walsh  
**Scientific/technical advice:** Andrew Burbidge, Ian Abbott, Neil Burrows, Paul Jones and staff of CALMScience Division  
**Design and production:** Tiffany Aberin, Maria Duthie, Sue Marais  
**Illustration:** Gooitzen van der Meer, Ian Dickinson  
**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 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