The Magic of Magenta

It stretches across 108 000 hectares of mallee country in the south-eastern Wheatbelt, and is one of Western Australia's key reserves, yet much is still to be discovered about the Lake Magenta Nature Reserve.

by
Murray Carter, Mal Graham and Chris Johnson

Nature reserves dot the Western Australian landscape, a reminder to us that we are fortunate to have so much that needs to be protected, managed and enjoyed. Native plant and animal conservation rates high on the list of priorities in these reserves. But while some reserves are well known and frequently visited, the Lake Magenta Nature Reserve, in the south-eastern Wheatbelt, remains relatively untouched.

As the crow flies, the reserve is located about 350 kilometres south-east of Perth and 32 kilometres east of Pingrup. It is one of Western Australia's key nature reserves, yet its remoteness and size ensure it suffers minimum disturbance and remains a primitive area.

Lake Magenta Nature Reserve is 108 000 hectares in size, and makes up a third of the total area of nature reserves managed by the Department of Conservation and Land Management's (CALM) Katanning District. There are 179 nature reserves in the district, with an average size of 1 578 hectares. However, 161 of these are much smaller than the average!

The sheer size and significance of the Lake Magenta reserve demand that CALM officers pay it great attention. While it is

rarely visited by tourists or others, there is always plenty of activity being carried out to enhance the preservation of its natural wonders.

One third of the reserve falls within the UNESCO-sanctioned Fitzgerald Biosphere Reserve buffer zone, so it shares much of the same topography and wildlife. But it also has a unique beauty that can only be found within its borders. Broad acre cropping and grazing lands adjoin the southern, western and northern boundaries, while on the eastern side there are unvested Crown lands, many of which have been proposed as additions to the reserve.

The predominant soil types on high points are lateritic, and in some areas, erosion has formed quite large and spectacular breakaways. Lower in the landscape, the soils progress from gravelly and sandy loams to soils with an increasing clay content found in drainage lines and near lake systems. The main drainage system for the south-eastern third of the reserve provides the headwaters of the Fitzgerald River.

Most of the reserve is gently undulating country, with the highest point being about 370 meters above sea level. From this, and slightly lower points, there are views of the reserve that stretch out to developed farmland in the distance.

The main physical feature of the reserve is the lake after which it was named and the associated chain of small lakes that extend north and south. This lake system covers 15 per cent of the reserve area, but is shallow and saline, holding water only during the winter

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Top: The aptly named red toothbrush grevillea is one of more than 300 plant species recorded in the reserve.
Photo – Michael Morcombe
Bottom: Reflections bounce off the glassy surface of one of the reserve's ephemeral saltpan lakes.
Photo – Murray Carter

Below: The spotted pardalote is a regular visitor to the reserve's salmon gum woodlands.
Photo – Michael Morcombe

Above: The western mouse is one of the declared rare species found at Lake Magenta. This one was captured during a survey.

Above left: Breakaway landscape: one of several eroded granite ridges within the Lake Magenta Nature Reserve.
Photos – Murray Carter

months and sometimes briefly after summer thunderstorms. When Lake Magenta is filled, it presents breathtaking views of still, glass-like water that seems to stretch forever.

EUROPEAN HISTORY

In the early 1950s, there was a push from many scientists and government agencies to establish a major nature reserve in the mallee country of the eastern Wheatbelt. This push was led by the senior research scientist at CSIRO at that time, Dr D.L. Serventy.

In late 1952, Dr Serventy wrote to the under secretary for lands proposing that a reserve be established in the vicinity of Nyabing (40 km west of Pingrup). The under secretary replied that land within that area was already committed for development and that Dr Serventy should look eastward, towards Lake Magenta.

In early 1953, Dr Serventy put together a party of scientists from the Western Australian Museum to survey the Lake Magenta area. He went on to propose a 'faunal reserve or primitive area' of about 135 700 hectares. This proposal gained the support of many eminent scientists, government departments and agencies. Among them was the then Forests Department, which recommended that two timber reserves in the area be cancelled and the whole location be set aside as nature reserve.

However, local interests opposed the initiative, largely on the grounds of vermin control. At that point, dingoes were an obstacle to agriculture in the eastern Wheatbelt and such a large, pristine area was seen as a potential haven for dingoes and foxes.

A period of negotiation followed and alternatives to Lake Magenta were investigated, but found to be unsuitable. In November 1959, a Class A reserve of 94 170 hectares was established.

This was less than the original proposal, but locals continued to argue

Right: Sunlight dapples the handsome bark of the salmon gum. Woodlands like this were once common throughout the Wheatbelt.
Photo – Murray Carter

against the reserve. They again stressed the possibility of the reserve being a haven for vermin, and also resented the disruption to development in the region. Many attempts were made to reduce the size of the reserve, but in 1964, the then premier, David Brand, put an end to speculation and reconfirmed the security and tenure of the Lake Magenta Nature Reserve. Today, the reserve is larger, but is still short of the 135 700 hectares proposed by Dr Serventy.

In August 1969, the reserve was declared a 'Prohibited Area' under Section 12A of the Wildlife Conservation Act. This restricted access to people holding a permit issued by the then director of Fisheries and Wildlife. It was a protective measure designed to preserve the area's primitive status after a network of fire access tracks had been established, making it more accessible.

The two major influences Europeans have had on the reserve have come in the shape of feral animals and fire. More than 60 per cent of the Lake Magenta Nature Reserve has been burnt in nine major fires. All but one of these fires began outside the reserve, and most were the result of accidental escapes from clearing burns.

Measures to reduce the frequency of fires, and to suppress them once they occur, are treated as a high priority in the management of the reserve.

ABORIGINAL CULTURAL SIGNIFICANCE

Little is known about Aboriginal use of the Lake Magenta area, and even less has been written. The only known sites of Aboriginal activity are a number of freshwater soaks, some of which have been modified by early European explorers and settlers.

Top left: Wedge-tailed eagles make an impressive addition to the reserve's birdlife.
Photo – Jiri Lochman

Centre left: The spotted-thighed frog is the only frog at Lake Magenta to depend on permanent fresh water. It lives at 'Government Dam'.
Photo – Bill Belson/Lochman transparencies

Left: The wingless leschenaultia is one of 12 'priority flora' species that occur within the nature reserve.
Photo – Michael Morcombe

A Dreaming trail has also been described, extending from the north along the chain of lakes, which includes Lake Magenta to Fitzgerald River and the coast. Some soaks on the western edge of the lake are apparently part of this trail.

PLANTS

A diversity of soil types support the range of vegetation types present in the reserve. Samphire scrubland gives way to shrub thickets, heaths and mallee-scrub, as well as woodlands of moort (*Eucalyptus platypus* spp. *platypus*), yate (*E. occidentalis*) and salmon gum (*E. salmonophloia*).

Except for a few areas adjacent to fire access tracks, the vegetation has only been mapped on a broad scale. Little detailed surveying of plants has been undertaken to date. Nonetheless, more than 300 plant species have been recorded from the reserve, including five banksias, 11 grevilleas, 21 acacias, 23 melaleucas, 24 hakeas and 34 eucalypts. Twelve species on CALM's Priority Flora list have also been recorded, including the attractive wingless leschenaultia (*Lechenaultia acutiloba*).

BIRDS

At the time of the reserve's gazettal, perhaps its most famous occupant was the malleefowl. Many long-term locals still fondly refer to the area as 'the chook reserve'. Unlike many smaller reserves, Lake Magenta still supports malleefowl, the most recent active mound being found last year.

In 1982, and based largely on WA Museum surveys, 98 bird species were known to inhabit the reserve. The list has since been expanded to 119, as a result of opportunistic surveys by CALM staff. It includes coastal species at the northern limit of their range, such as the rare western whipbird, and inland birds at the southern edge of their range, such as the hooded robin and Gilbert's whistler. Wedge-tailed eagles can also be seen quite regularly.

REPTILES AND FROGS

Like the bird species, the reptile and frog records reflect both the diversity of the vegetation within the reserve and the influences of southern and inland species at the limit of their ranges. Forty-two reptile and ten frog species have been recorded from the reserve.

The fruit of the quandong tree provides food for species ranging from the western mouse to the emu.
Photo – Michael Morcombe

Some of the interesting examples of the southern-inland overlap are the presence of the tiger snake and the mulga snake, the skinks *Lerista microtis* and *Ctenotus schomburgkii* and the crested dragon (*Ctenophorus cristatus*).

As might be expected from a reserve with no naturally occurring, permanent fresh surface water, most of the frog species recorded have adapted to survive in the arid zone by burrowing into the ground and coming to the surface only during, or soon after, rainfall. Many have evolved highly specialised reproductive systems in the absence of open water. Some, for example the turtle frog (*Myobatrachus gouldii*), store large amounts of water inside their bodies as a survival mechanism.

The only frog at Lake Magenta that is dependent on permanent fresh water is the spotted-thighed frog (*Litoria cyclorhynchus*), which resides at the so-called 'Government Dam' in the reserve.

MAMMALS

Fourteen species of native mammals are known to occur in the reserve, but this list is expected to expand as modern monitoring techniques are implemented. The little bat (*Vespadelus regulos*), for example, is the only bat species recorded to date.

Fox-baiting within the reserve should boost the recovery of what is thought to be a small population of quendas.
Photo – Jiri Lochman

Several mammal species gazetted as 'likely to become extinct or rare' have been recorded, including the chuditch, quenda, walyadji (western mouse – *Pseudomys occidentalis*) and dayang (heath rat – *Pseudomys shortridgei*). The numbers of some are very low. For instance, only one chuditch and one quenda have been caught during surveys totalling 7 600 cage trap nights.

The main reason for these low numbers is believed to be predation by foxes. This is also thought to have contributed to the loss of the numbat, woylie and boodie, whose previous range included the Lake Magenta area.

FUTURE MANAGEMENT

Because it has been shown that some native animals recover well in areas where predator control is implemented, Lake Magenta Nature Reserve has been included in 'Western Shield' (see *LANDSCOPE*, Winter 1996). The first aerial baiting was undertaken in May 1996 and will be repeated four times each year. Adjoining landowners will be encouraged to undertake fox control on their land at the same time that the reserve is baited.

The reserve has also been included in a draft list of areas nominated as Fauna Reconstruction Sites by the Western Australian Threatened Species and Communities Unit. Animals that may be introduced to Lake Magenta include the woylie, boodie, bilby, and banded hare-wallaby. Existing populations of chuditch and quenda will also be boosted with the introduction of animals from other areas, and from captive breeding programs.

Because of its size, remoteness and relatively pristine condition, the Lake Magenta Nature Reserve will play a vital role in the re-establishment of Wheatbelt plant and animal species. The foresight of those who fought, first to have it established, and then to retain it, has paid off. The humble 'chook reserve' may well hold the key to the successful reinstatement and preservation of biodiversity in the Wheatbelt.

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Rainbow lorikeets. Are they pests? Will they displace our native birds? Do we need to control their numbers, and if so, how? Find out more on page 17.

*A subspecies of granny bonnets (*Isotropis cuneifolia *subsp.* glabra*) found in a threatened community on the Swan Coastal Plain. See story on page 35.*

'The Magic of Magenta' co-author Mal Graham clearing an Aboriginal soak in Lake Magenta Nature Reserve. See our story on page 41.

A rat by any other name...? In 'Dinkum Aussie Rats' Andrew Burbidge discusses the use of common and Aboriginal names for native rodents.

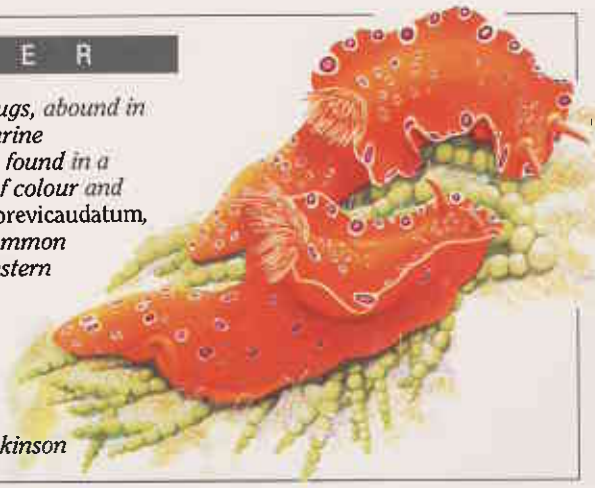
In 'Saving the Giants', read how a new Tree Top Walk in WA's south-west is set to become one of Australia's nature-based tourism icons.

FEATURES

REGULARS

COVER

Nudibranchs, or sea-slugs, abound in Western Australia's marine environment. They are found in a tremendous diversity of colour and form, the Ceratosoma brevicaudatum, *illustrated here, is a common inhabitant of south-western waters. See page 28 to learn more about the 'Slugs of the Sea'.*



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