

YALGORUP

NATIONAL PARK:

A

Place of Lakes

The ten lakes that run in a chain through Yalgorup National Park are in relatively good condition compared with most lakes on the Swan coastal plain. Perhaps it was the fact that the land around them proved to be of little use to agriculture in the early settlement days that saved them from much serious degradation. But what steps need to be taken to protect this beautiful place of lakes for the future?

BY **DAVID GOUGH** AND **CHRIS PORTLOCK**

Yalgorup National Park lies on the western edge of the Swan coastal plain just south of the new Dawesville Channel near Mandurah. The name Yalgorup is derived from two Nyoongar Aboriginal words; *yalgor*, meaning 'a swamp or lake', and *up*, a suffix meaning 'a place'. Although Aboriginal people have occupied the south-west of Australia for at least 40 000 years, little is known about their activities in the area now covered by the Yalgorup National Park— even though a number of occupation sites have been found there. However, post-European settlement activities in the area are much better documented and may shed some light on why the area has remained relatively undisturbed.



THE COMING OF THE SETTLERS

While exploring the coastline between Mandurah and Bunbury in 1829, Lieutenant Surgeon Alexander Collie and Lieutenant William Preston, together with a boat party, came across and named Lakes Preston and Clifton, the latter in honour of Mr Marshall Waller Clifton, of the West Australia Company. Soon

afterwards, the area was used for two ambitious but ill-fated settlement schemes. Between December 1829 and May 1930, some 500 settlers arrived under Thomas Peel, but this first scheme failed because of lack of leadership. Nevertheless, a few people remained and formed a permanent settlement at Mandurah. The West Australia Company's scheme at Australind, which began some years later in 1841, also failed, this time because of the difficulties involved in farming the poor-quality land and in transporting produce to Perth. A rough coastal road was built by the company in 1843 and a ferry was established across the narrows at Mandurah. However, many of the people were by then already disillusioned and had begun moving to better farming land near Pinjarra.

In the 1850s, shortly after the introduction of convict labour into the State, the 'Old Coast Road' south of Mandurah was rebuilt by convict road gangs. For most of its length, the road ran through well-timbered, sandy limestone country of little value to agriculture, and except for a number of small holdings that had been developed by the early 1870s near fishing grounds on the west shore of the Harvey estuary, settlements near the Old Coast Road were quite scattered. From the 1860s onwards, the coastal road declined in importance, with the shift in settlement being towards the foothills of the Darling Range. This decline in interest in the area could well have been its saving grace, and despite attempts to exploit the land and waters through a number of commercial ventures over the next hundred years or so, little disturbance occurred.

In 1921, the WA Cement Company built a lime kiln on the east side of Lake Clifton and began extracting lime marl from the bed of the lake. The company also built a railway to transport the lime



Previous page

The Lake Clifton stromatolites are an important natural feature within Yalgorup National Park.

Left: Early morning sunlight filters through tuart woodland and onto the lush green understory.

Photos – Michael James

from Lake Clifton to Waroona, and a settlement, including a bakery, shop, school and numerous houses, soon sprang up near the lake. After a few years, the operation was found to be uneconomic and was closed down. The railway was also closed and the rails and sleepers removed and used in the construction of the Lake Grace to Newdegate railway. The remains of the lime kiln can be found on the eastern side of Lake Clifton, and a picnic area with historical information and interpretation is proposed for the site.

Development along the Old Coast Road continued slowly and with little impact. Even after the Second World War—when part of the area at Herron Homestead, north of Lake Clifton, was used as a training and patrol ground for the 10th Light Horse Brigade—much of the area was still in its natural state and little development of any significance took place until the 1950s.

Whittakers Sawmill was built on the Old Coast Road and milling began in July 1953. Logging of tuart and jarrah stands occurred in State forest and in areas that later were included in Yalgorup National Park. The mill closed in 1964, and its remains, at the picnic site on the Old Coast Road, are a proposed addition to the park.

Yalgorup National Park was formally established in the early 1970s and additions to the park have been occurring ever since. More than 1 077 hectares was added to the north of the park in early 1992. This area had been proposed as a site for two nuclear power stations, but alternative and preferable power production options were developed instead. Numerous land exchanges and acquisitions with local government and private property owners have also occurred in recent times. These have all been aimed at consolidating the park's boundaries and increasing its viability for the conservation of plants and animals.

Above right: The Peel-Harvey Inlet and the nearby Yalgorup lake system are recognised as important waterbird habitats under the Ramsar convention.
Photo – Jiri Lochman

Right: During winter, Swan Pond is joined to Lake Clifton by a narrow channel of shallow water.
Photo – Alex Bond



Right: The pink flowers of *Pimelia ferruginea* begin to show themselves in September.

Photo – Babs & Bert Wells/CALM

Below: Marri favours the light sandy soils of coastal areas like Yalgorup National Park. Its creamy white flowers can be seen during summer and early autumn.

Photo – Michael James



GEOLOGY

Yalgorup National Park and its surrounding areas are characterised by limestones, sands and clay of the late Tertiary and Quaternary periods. In the areas close to the lakes, the soils are estuarine sands and mud. In remaining areas of the park the soils are sands, mostly of marine origin. Limestone underlies the sands at varying depths, and outcrops are common.

Overtime, marine quartz and skeletal sands, pushed inland by the prevailing westerly swells, form a complex beach dune system. The relatively young sand dunes of the Quindalup Dune System extend inland for up to two kilometres from the beach. Further inland is the Spearwood System with leached sands

at the surface and creamy yellow to reddish-brown subsoils.

The 10 lakes that form part of the Peel-Yalgorup System lie in the depressions between a series of parallel coastal dune systems. The Vasse Lagoonal System, with its low-lying, poorly drained terraces of mud silt or clay and abundant plant material, surrounds the coastal lakes and is important to their ecology.

The lakes are quite individual in character and therefore very useful for comparative studies. They are (from north to south): Lakes Clifton, Duck Pond, Boundary, Pollard, Martins Tank, Yalgorup, Hayward, North Newnham, South Newnham and Preston.

Lake Clifton has living stromatolites (literally, layered rocks) and thrombolites (literally, clotted rocks), while Lake Preston contains microbialite mounds (the remains of stromatolites or thrombolites) as well as tepee structures. These latter structures, formed in a sheet of limestone, occur in zones of groundwater resurgence and resemble the conical shape of an American Indian tepee. Overall, the park's lakes are in relatively good condition compared with most of the other lakes on the Swan coastal plain.

PLANTS

The vegetation types in Yalgorup National Park vary widely in height and density and in plant species. They include forests, woodlands, heaths and herbfields.

The vegetation on the dunes closest to the beach includes species such as hairy spinifex and thick-leaved fanflower, which are well adapted to the harsh environment of salt spray, sand blasts and long, hot, dry periods. The diverse, low, soft-coloured vegetation behind the white sands creates an unusual diversity of colour, height and species. Shrublands of summer-scented wattle and coast daisy





Left: Short-beaked echidnas have been seen in the park.
Photo – Jiri Lochman

Below: The hobtail skink is one of 13 species of lizard recorded in the park.
Photo – Michael James

bush give way to coast honey-myrtle and *Pimelia ferruginea*. Some of the older dunes have woodlands of peppermint, and balgas (blackboys) are common.

Beyond the foredunes is mixed eucalypt forest comprising tuart, jarrah and marri, with occasional dense stands of narrow-leaved red mallee. Beneath these trees are candle banksias, weeping peppermints and common sheoaks.

The tuart forest and woodland found on the limestone belt inland from the coastal dunes provide similar diversity and contrast. Surrounding Lake Clifton and parts of Lake Preston are tuarts reaching more than 30 metres in height. Below these is a second storey of common sheoak, bull banksia, candle banksia and swamp banksia, with an understorey of coojong (golden wreath wattle), prickly moses, green stinkwood, coast honey-myrtle, common buttercup and many other species.

A few small wet areas north of Lake Preston and south of Lake Clifton are characterised by tuart, jarrah, flooded gum, paperbark and marri, and on an island to the north of the Lake Preston Causeway are Rottnest Island tea trees surrounded by saltwater paperbarks.

Several orchid species reach their northern limits of distribution in the park and can often be found near ephemeral freshwater wetlands south of Preston Beach. The declared rare (ie. threatened) dwarf bee orchid, has recently been found in the park. Other

threatened plant species in the park include *Haloragis aculeolata*, the limestone form of *Hakea undulata*, *Leptomeria lehmanii* and *Lasiopetalum membranaceum*.

MAMMALS

No detailed or systematic surveys of mammals have been carried out in Yalgorup National Park, but western grey

kangaroos and western brush wallabies are numerous, and there is evidence of small populations of bandicoots. Recently, a small population of chuditch, very rarely found on the coastal plain, was confirmed through trapping in the park. Brushtail possums and echidnas have been seen in the area and water-rats have been trapped in the swampy areas just south of Lake Preston. Bat species present in the park include Gould's wattled bat and the King River eptesicus.

Some species likely to have been present in the past include the honey possum, pygmy possum, western ringtail possum and quokka. Isolated populations of these species may yet be discovered in the Yalgorup National Park. Local farmers reported the presence of the



wambenger (brush-tailed phascogale) in the area some 20–30 years ago and have remarked that its disappearance has corresponded with the clearing of woodland on nearby private property. A number of areas of the park have been identified as possible sites to re-introduce native animals, but this would have to be done in conjunction with feral animal control programs.

Many locals believe that a thylacine or Tasmanian tiger (*Thylacinus cynocephalus*) lives in the vicinity of the park, and there have been a number of unsubstantiated reports of sightings over a number of years. No undisputed evidence of the animal's existence has yet been produced, but no doubt the stories will live on in local folk lore.

BIRDS

Bird species are well represented in Yalgorup with 134 species being recorded in surveys. Excluding the marsh and water birds, of which there are almost 90 species, common birds include the emu, striated pardalote, rainbow bee-eater, Richard's pipit and four species of honeyeater.

The Yalgorup lake system is recognised under the Ramsar Convention (named after the place where it was signed in Iran). The lakes are important waterbird habitats both for local species and for the international transequatorial migratory waders that migrate from the northern hemisphere. These waders are listed in the Japan–Australia and China–Australia Migratory Bird Agreements and

include the bar-tailed godwit, red-necked stint, greenshank, red knot, whimbrel and three species of sandpiper. Other waterbirds that use the lakes include the banded and black-winged stilts, red-necked avocet, hooded and red-capped plovers, Australian pelican and coot.

In surveys carried out in southwestern Australia between 1988 and 1992, the Yalgorup lakes consistently supported the largest numbers of musk duck and, in 1990, supported the most Pacific black duck of the areas surveyed. The lakes also had the third largest numbers of black swan recorded in 1988 and consistently support high numbers of shelduck in early summer (13 800 at Lake Clifton in November 1988). Black swans occur in high numbers at Lake Pollard, where they graze on extensive growths of stoneworts (or musk grasses).

AMPHIBIANS AND REPTILES

Surveys of Yalgorup National Park by the Western Australian Museum have recorded eight species of frog, including the quacking frog, turtle frog and slender tree frog; six snake species, including the yellow-faced whip snake, bardick, crowned snake and black-backed snake; and 13 lizard species, including the marbled gecko, bearded dragon and Burton's legless lizard. One lizard, the red-legged skink (*Ctenotus labillardieri*), was collected and identified by the Museum in 1981. It is rarely found on the Swan coastal plain, being more common among granite in the Darling Range.

The long-necked oblong tortoise is present in Lake Clifton.

RECREATION

Yalgorup National Park offers visitors panoramic views of the beaches, dunes and lakes from several high spots. Peaceful settings among the patches of tuart forest and woodland, and sweeping views over the tranquil lakes, give the area a wilderness feel and attract an increasing number of visitors.

The red-necked avocet is one of several waterbird species that use the Yalgorup lake system.

Photo – M & I Morcombe



The development of the Dawesville Channel, just north of the park, and the population expansion around Mandurah and Bunbury will undoubtedly result in even more visitors to the park, and improved recreation facilities will be needed to minimise any pressures from visitors.

Recreational activities in the park include camping and bushwalking, with canoeing, boating and water-skiing available in the southern part of Lake Preston. Camping facilities are provided at Martins Tank Lake, off Preston Beach Road near the centre of the park. Additional camping and day-use facilities are proposed in the northern part of the park, and nature walks, lookouts and nature observation points are to be developed at a number of locations.

A bridle trail in the northern section of the park, which will follow road reserves and the outer edge of the park's boundary, will enable horse riders to reach the beach and will provide a link to the longer 10th Light Horse Bridle Trail. The trail will confine any potential damage to vegetation from weeds and disease to the outside edge of the park. Horse riding will not be permitted near Lake Clifton or in the sensitive coastal vegetation complexes.

MANAGEMENT

Because of the nature and the length of its boundaries, management of Yalgorup National Park is difficult, and it is vulnerable to damage from outside activities. To help reduce any impact of such activities, the Department of Conservation and Land Management (CALM) will liaise closely with land holders and local government agencies that have land or reserves next to the park.

The protection of Lake Clifton's stromatolites and thrombolites is vitally important if they are to survive. The cooperation of private property owners and a number of local and State government departments and research organisations is essential. Protection measures that extend beyond the boundaries of the park are required for water catchment areas, particularly those around Lake Clifton. There are concerns that adjacent land-use practices and the extraction of groundwater may change the ecological character of Lake Clifton and affect the survival of the stromatolites



A flock of banded stilts over Lake Pollard.

Photo – Michael James

and thrombolites. An education program to increase awareness and appreciation of the fragile nature of these ancient structures will help to gain public support for their conservation. An observation walkway is planned to minimise any impact from visitors wanting to see these fascinating structures.

There are still a number of challenges ahead regarding the planning and management of Yalgorup National Park and its surrounding areas. But thanks to the fact that the area has remained relatively undisturbed since European settlement and that clear long-term management has been planned in collaboration with local and State government agencies, the future looks good for this beautiful place of lakes.

David Gough is Editor of *LANDSCOPE* and a communications officer in CALM's Corporate Relations Division. He can be contacted on (09) 389 8644.

Chris Portlock is a planning officer with CALM's Parks, Recreation, Planning and Tourism Division and was coordinator of the planning team responsible for the Yalgorup National Park Management Plan. He can be contacted on (09) 364 0732.

The authors acknowledge the valuable assistance of Scott Wood and Peter Hanly—members of the Yalgorup National Park Management Plan planning team.

A management plan for Yalgorup National Park, involving full public consultation and liaison with the City of Mandurah and the Shires of Waroona and Harvey, is soon to be released.

LANDSCOPE

VOLUME TEN NO.3 AUTUMN ISSUE 1995



Flower arrangements featuring eucalyptus foliage are becoming popular with florists. Find out why on page 35.



Unseen for more than 100 years and believed to have been extinct, Gilbert's potoroo turned up quite unexpectedly. See page 28.



Salinity is a problem in the State's south-west, but farmers, communities and government agencies are working to find solutions. See page 39.



A giant dragonfly lives in the south-west of Western Australia. You can find out more about this ancient relict of the jarrah forest in 'Western Petalura' on page 52.



The thick-billed grasswren is one of several animals that may be reintroduced to Shark Bay as part of an ambitious project. See 'Return to Eden' on page 22.

FEATURES

FABULOUS FANFLOWERS SUZANNE CURRY	10
THE AGE OF JARRAH MANDY CLEWS & TAMMIE REID	17
RETURN TO EDEN CAROLYN THOMSON & RON SHEPHERD	22
LOST & FOUND: GILBERT'S POTOROO TONY START, ANDREW BURBIDGE, ELIZABETH SINCLAIR & ADRIAN WAYNE	28
TURNING A NEW LEAF LIZ BARBOUR & ALISON FUSS	35
HEALTHY FARMLAND, HEALTHY BUSHLAND KATE HOOPER & RICHARD GEORGE	39
YALGORUP NATIONAL PARK: A PLACE OF LAKES DAVID GOUGH & CHRIS PORTLOCK	45
WESTERN PETALURA ANDREW WILLIAMS & MATTHEW WILLIAMS	52

REGULARS

IN PERSPECTIVE	4
BUSH TELEGRAPH	6
ENDANGERED WESTERN BRISTLEBIRD	34
URBAN ANTICS	54

COVER

The stunning royal robe (*Scaevola striata*) is one of a host of fabulous fanflowers found in Western Australia. Suzanne Curry discusses this and other species in the family Goodeniaceae on page 10.

The illustration is by Philippa Nikulinsky.



Managing Editor: Ron Kawalilik
 Editor: David Gough
 Contributing Editors: Mandy Clews, Verna Costello, Kate Hooper, Carolyn Thomson
 Scientific and technical advice: Andrew Burbidge, Ian Abbott, Paul Jones
 Design and production: Maria Duthie, Sue Marais
 Finished art: Karen Addison
 Illustration: Ray Andress, Ian Dickinson, Gooitzen van der Meer
 Cartography: Promaco Geodraft
 Marketing: Estelle de San Miguel ☎ (09) 334 0296 Fax: 334 0498
 Subscription enquiries: ☎ (09) 334 0481 Fax: 334 0498
 Colour Separation by Prepress Services
 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 the consent of the publishers.



Published by Dr S Shea, Executive Director
 Department of Conservation and Land Management,
 50 Hayman Road, Como, Western Australia 6152.