

Wonderful Kalbarri



Kalbarri National Park is in the top 10 most popular national parks in the State, with more than 110,000 people visiting it each year. Several major developments are planned for the area, with numbers of visitors expected to increase. The need to ensure that the park continues to thrive is one of the key issues for a plan of management.

by Margaret Kierath

Framed by the craggy rim of Nature's Window on the plateau in Kalbarri National Park, the landscape sweeps past the Murchison River and across the sand plains to a sharp, shifting horizon.

Captivated, people return to the Park again and again. All are drawn by the drama of the coastal cliffs, the wildflowers in spring and the towering, silent river gorges.

However, the Park's popularity has reached a stage where impacts are becoming apparent. Increased traffic, visitor sites that are frequently full, and a lack of room to expand have led the Department of Conservation and Land Management (CALM) to prepare a 10-year plan of management for the Park.

IN THE FIRST PLACE

The vastness of the spectacle offered by Kalbarri National Park has its origins in an ancient geology that reaches back some 430 million years. From that time, successive layers of sand were deposited in what is now known as the Victoria Plateau region of the park. Much later, 50 million years ago, the



plateau was raised and the Murchison River moved inexorably through, slicing a gorge to expose the extraordinary Tumblagooda Sandstone.

The contrast of the bands of brownish red and purple against the bands of white is one of the wonders of the park and draws thousands of visitors each year. Unknown to many, however, are the traces of other, long-completed lives. Deeply embedded in the layers are some of the earliest signs of animal life on earth, including the peculiar burrows of a worm called *Skolithos*. Other prehistoric arthropods—amphibious creatures like scorpions that grew up to two metres long—and euthycarcinoids—large animals that resemble cockroaches

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Main: Nature's Window above the Murchison River gorge—the most photographed location in Kalbarri National Park.

Photo – Jiri Lochman

Below: Pot Alley with the spectacular Zuytdorp Cliffs in the background.

Photo – Jiri Lochman

with 11 pairs of legs—are also entombed there. As they scuttled about under the harsh sun from one waterpool to another, these ancient life forms left footprints in the wet surface. Sand storms rained over the imprints, covering and preserving them, to be revealed only by the Murchison River as it carved its slow, steady path through the rock.

Along the coastal dune belt, south of the river mouth in the Balline region, are younger, rolling sand plains. These were formed 10,000 to 1.5 million years ago when dunes swept over and settled on Tamala Limestone.

In a fringe behind the coastal strip is the Wittecarra region, a yellow and white sand plain studded with outcrops



Right: The red and white bands of Tumblagooda Sandstone were deposited over 400 million years ago.
Photo – Dennis Sarson/Lochman Transparencies

Below left: *Skolithos*, a Silurian worm, created these tube-like structures 400 million years ago.
Photo – Dennis Sarson/Lochman Transparencies

Below right: Fossilised tracks of prehistoric arthropods are clearly visible on the sandstone surfaces of the gorge.
Photo – Jiri Lochman

of red, porous laterite formed about two million years ago. Here, too, older sedimentary deposits lie largely beneath the surface. They protrude as white, chalky cliffs on the north side of the river valley, and cap Meanarra Hill.

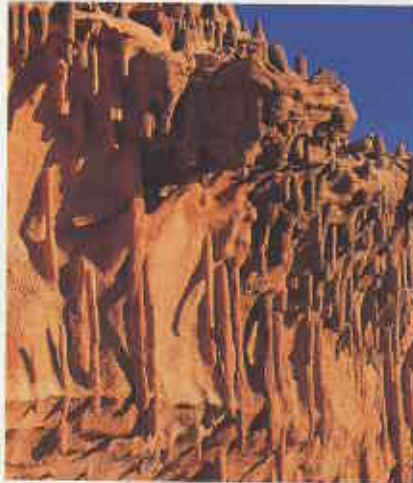
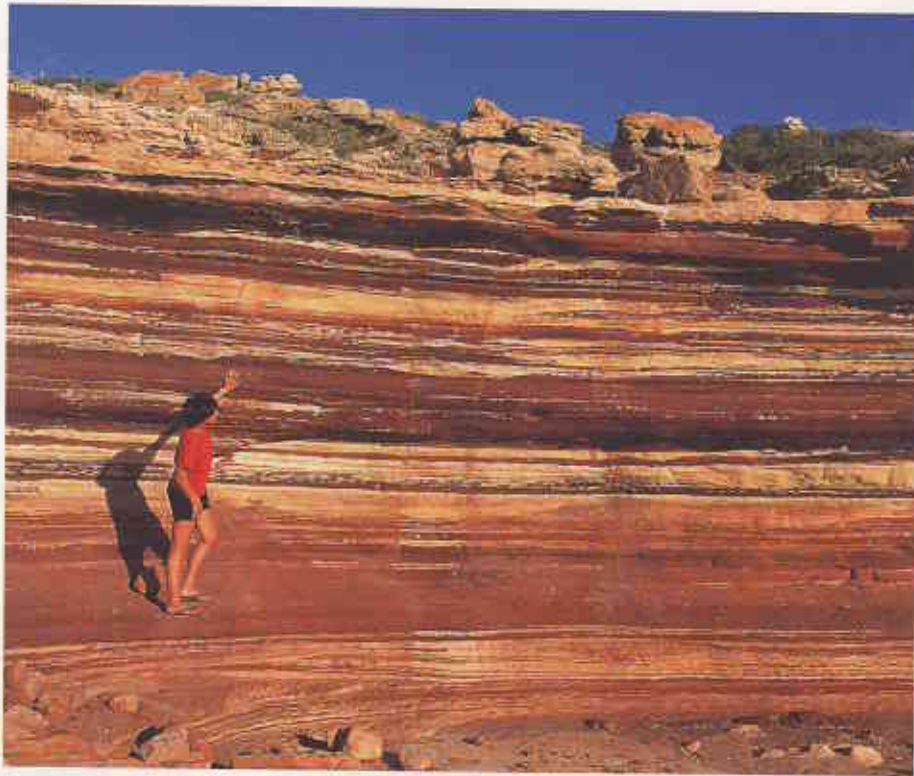
WIND AND WATER

The rugged coastline of the Kalbarri National Park, approximately 20 kilometres long, withstands the pounding of the sea during winter storms and summer winds. The limestone absorbs most of the energy, but the erosion process continues. Severe storms and accompanying surges can lift sea levels above the fringing reef and, like king waves, threaten people using the cliffs.

Rain in the coastal region is light—400 mm is the average annual fall—but there are other sources of water that nourish species and ecosystems and provide recreational opportunities for visitors.

The source of the Murchison River is 450 kilometres inland from Kalbarri, and it is one of the only rivers in the area to flow most of the year round. But such constancy belies enormous variability in the river's flow, due to cycles of drought and flood. Indeed, during the late 1970s and early 1980s, two of the largest annual flows on record occurred, but there were also two successive years without the usual seasonal flows.

Below the surface is Kalbarri's water supply. The Tumblagooda Sandstone provides abundant water for wells and bores and is replenished by rainfall, river flows and leakage from other sedimentary deposits.



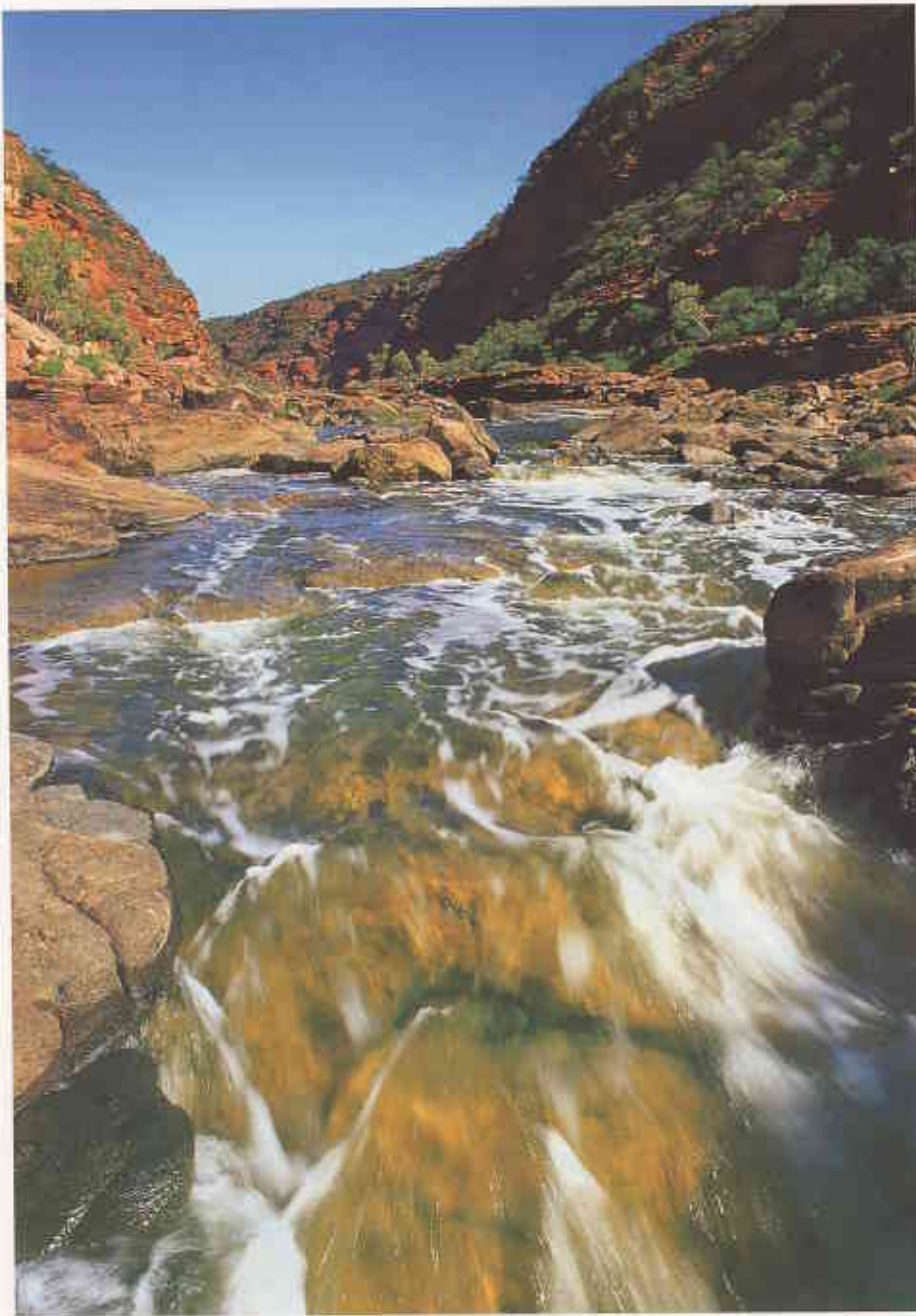
VEGETATION

The renowned wildflower display in Kalbarri National Park varies both according to the soil and the season and is made up of more than 800 species of both southern and northern flowering plants. From July through spring, the coastal sand plain explodes in a continuing blaze of colour, set off by Western Australia's floral emblem, the red and green kangaroo paw (*Anigozanthos manglesii*), the white plume grevillea (*Grevillea leucopteris*), the prickly plume grevillea (*Grevillea annulifera*), and smokebushes and starflowers. More than 40 species of orchid show in June and July, while the featherflowers (*Verticordia* spp.) predominate in October and November.

Several species exist only in the Park, mainly on coastal cliffs and in the gorge country, including the Kalbarri leschenaultia (*Lechenaultia chlorantha*) and some of the orchids.

As a tribute to the richness of the flora in the Park, several species have been named for Kalbarri. They include the Kalbarri catspaw (*Anigozanthos kalbarriensis*), Kalbarri fringe lily (*Thysanotus kalbarriensis*) and Kalbarri bottlebrush (*Calothamnus kalbarriensis*) among them.

Elsewhere, on low hills in the park, acacia-melaleuca thickets and patches of mallee can be found where the soil is heavier. The sand plain on the northern side of the Murchison River also comprises scrub heath, but, on ridges of sand, cypress trees (*Actinostrobus*



arenarius), sceptre banksia (*Banksia sceptrum*) and woody pear (*Xylomelum augustifolium*) thrive.

The rocky gorges and deep valleys are covered with jam (*Acacia acuminata*) and *Jacksonia cupulifera* scrub and small rock sheoak trees (*Allocasuarina huegeliana*). River redgum (*Eucalyptus camaldulensis*) and swamp sheoak (*Casuarina obesa*) along with occasional northern bottlebrush (*Callistemon phoeniceus*) line the river and lower flats.

FAUNA

A healthy, diverse habitat can support a wide range of animal species, and this is so for Kalbarri National Park. In particular, reptiles and birds abound. The ant-eating thorny devil (*Moloch horridus*), looking ferocious and lumbering despite its mere nine centimetres, thrives amongst a varied population of skinks, including *Ctenotus* spp., *Cryptobleharus* spp., *Cyclodomorphus* spp., and goannas



Top: The splendid wren is one of the many birds supported by the great plant diversity of Kalbarri National Park.
Photo – Raoul Slater/Lochman Transparencies

Above: The Murchison River gorge provides opportunities for remote bushwalking, rock climbing and abseiling, as well as canoeing and rafting on the river itself.
Photo – Jiri Lochman

Left: The Kalbarri sand plains are renowned for their brilliant wildflowers.
Photo – Ann Storrie

(*Varanus* spp.), one of the best known being the racehorse goanna. The bobtail or shingleback lizard (*Tiliqua rugosa*) is common, along with its relative, the western blue tongue lizard (*Tiliqua occipitalis*). The snake community in the area is also very rich with variety, and includes the gwardar (*Pseudonaja nuchalis*), the mulga snake, the little whip snakes and a range of other species.

Wrens (*Malurus* spp.) and honeyeaters (*Lichenostomus* spp., *Phylidonyris* spp., *Melithreptus* spp. and *Lichmera indistincta*) are sustained by plant nectar, while willy wagtails (*Rhipidura leucophrys*), thornbills (*Acanthiza* spp.), chats (*Epthianura* spp.) and woodswallows (*Artamus* spp.) rely on abundant insects for their energy.

As in other parts of Western Australia, however, animal species in Kalbarri National Park have been adversely affected by foxes and feral cats. Under Western Shield, a CALM project designed to reverse the impact of these creatures, it is expected that existing populations of affected fauna will increase. Evidence of the success of this project is seen in the increasing numbers of ground dwelling malleefowl (*Leipoa ocellata*) found in the park. It is also expected that several species will be reintroduced to the area. These include the woylie (*Bettongia penicillata*), the quenda (*Isodon obesulus*) and the tamar wallaby (*Macropus eugenii*), a rare animal once found in healthy numbers in the Park. The last confirmed sighting of the black flanked rock wallaby (*Petrogale lateralis*) within the Murchison Gorge by Park Rangers was in 1997, and it is believed that fox baiting will increase the size of the population, making them more conspicuous.

An additional challenge for native wildlife in the Park has been the threat from feral goats and pigs. Goats in particular occupy the same shelter sites as rock wallabies, displacing them and reducing the available shelter they require, threatening the size of the population within the park. A goat and pig eradication program has been conducted, most specifically in the Murchison Gorge system, to combat the problem.

PEOPLE AND THE PARK

The relationship of people and the environment is of central importance to the future management of the park. Opportunities to appreciate the diversity of the landscape must be enhanced, while protecting those very elements that attract people to the region.

The town of Kalbarri officially came into existence in 1951. It incorporated land resumed from the Murchison House Station pastoral lease as well as a 'C' class water and fauna reserve that was created in 1910 to ensure that the freshwater spring lining the Murchison

River estuary remained under the care of the crown. People fortunate enough to live in the town are flanked by the sea on one side and the national park, gazetted in 1963, on the other.

Since then, the future of the town has become even more closely tied to that of the Park, with strong links established between CALM and local community groups such as the State Emergency Service, the Volunteer Bush Fire Brigade, the Fire and Emergency Services Authority and the police. As people continue to visit the area in increasing numbers, support for the Park from within the town expands and

The western bearded dragon is often seen sunning itself on the rocks of the gorge.

Photo – Ann Storrie

Bottom: Chinamans Beach, at the mouth of the Murchison River, is a popular fishing and swimming spot within Kalbarri townsite.

Photo – Dennis Sarson/Lochman Transparencies





improves. The new Kalbarri airport, an upgrade of the Port Gregory to Kalbarri coast road, and improved roads within the Park, are major developments expected to increase the number of visitors.

Kalbarri National Park falls entirely within the traditional country of the Nanda people, who have a unique association with the land. CALM continues to strengthen ties with the traditional users of the land, and their contribution to the ongoing management of the park will ensure the protection of their cultural heritage.

The harsh climate, isolation and rugged terrain of Kalbarri National Park attract amateur and more seasoned bushwalkers. Day trips around the Loop and in the Z-Bend area of the river gorge both challenge and exhilarate even the more hardy. For

those with greater levels of fitness and experience, a three-day hike to beyond the Ross Graham Lookout is an opportunity to more fully appreciate the diversity and wonder of the light, the landscape and the wildlife.

A leisurely drive through the Park along the Kalbarri to Port Gregory coast road is one of the favourite holiday pastimes of visitors. From Red Bluff, named by Willem de Vlamingh in 1697, the imposing Zuytdorp Cliffs extend 200 kilometres to Shark Bay, while at Mushroom Rock there are eerie, delicate shapes sculpted by the wind, the water and even worms. The majestic panoramas of Pot Alley and Shellhouse and Grandstand contrast with the quiet, sheltered beach at the bottom of Eagle Gorge. Island Rock, once part of the sea line but now a solitary 'sea stack', and Natural Bridge,

Brilliant panoramas are a feature of the park, whether along the coast or inland along the gorge.

Photo – Marc Muller

the result of gradual fracturing of the cliff, reflect fragility exposed by time. Already CALM has prepared a Coastal Recreation Master Plan to ensure that these sites can be enjoyed safely and with minimum impact.

Many school groups travel the 560 kilometres from Perth, and further, for adventure holidays spent hiking and camping. Rock climbers and abseilers can indulge their passion with a licensed tour operator at the Z-Bend and Hawks Head. Canoes are available for guided tours of the permanent water holes in the gorge for those visitors who prefer a more unhurried meditative venture.

The exhilaration of Kalbarri National Park is its uniqueness: its pristine, diverse and changing landscape, its opportunities for excitement and challenge, and its ability to link us with the past.

HAVE YOUR SAY

The need to improve vehicle access to the Murchison Gorge recreation sites is a key issue of the management plan for Kalbarri National Park, soon to be released. A number of road options have been considered; they aim to provide all-weather access, scenic quality and new opportunities for recreation.

There are various stages in the management planning process for people to have input into the future management of a park. Pre-plan submissions are often invited in preparing the draft plan. This phase is already completed for the Kalbarri National Park, and the draft plan is soon to be released for public comment. Interested people who would like to have input into the future direction of the Park are invited to contact CALM's Planning Section on (08) 9334 0594. They will contact you when the draft plan is released.

Margaret Kierath is a freelance writer with an interest in the environment.

Staff from CALM's Planning Branch and Midwest Region made major contributions to the article.

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

LANDSCOPE



VOLUME FIFTEEN NUMBER 2, SUMMER 1999-2000



How many seals or sea lions are there around WA's coasts? See 'A Tale of Two Seals' on page 42.



"What I wasn't prepared for was the magic of the experience." See 'Desert Impressions' on page 35 for the story of a LANDSCOPE Expedition.



The malleefowl has declined to 46 per cent of its former range. Read about the combined effort to save it on page 17.



Enjoy the WA environment—and don't get hurt! See 'Balancing Act' on page 23.



Traditional owners are working with CALM and other agencies to manage the land. See page 10.

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The white-breasted sea-eagle is one of the many natural attractions of the mid-west. See page 28 for a story on one of the region's most famous places—beautiful Kalbarri National Park.

Illustration by Philippa Nikulinsky



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Published by
 Department of Conservation and Land Management,
 Dick Perry Avenue, Kensington, Western Australia