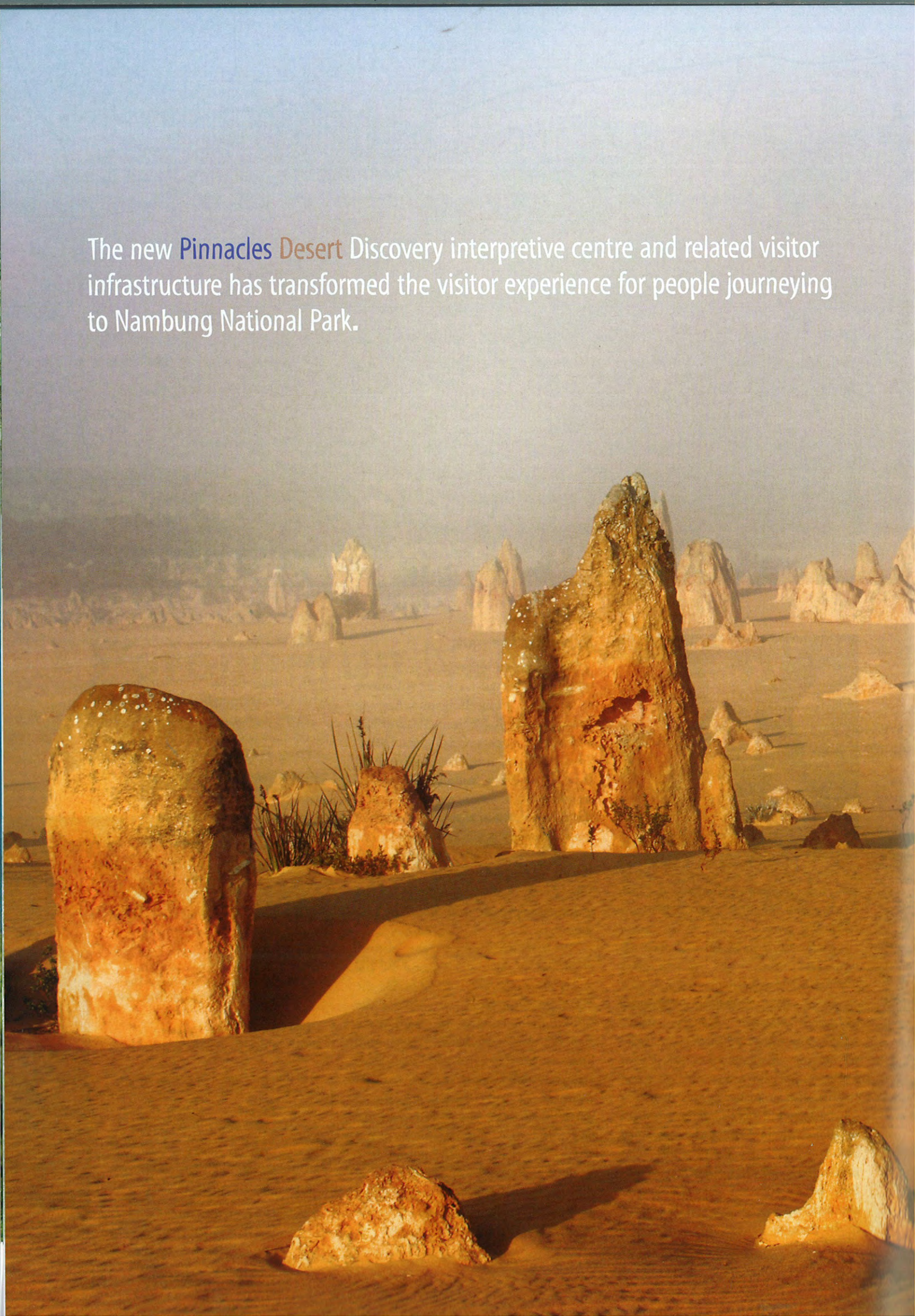
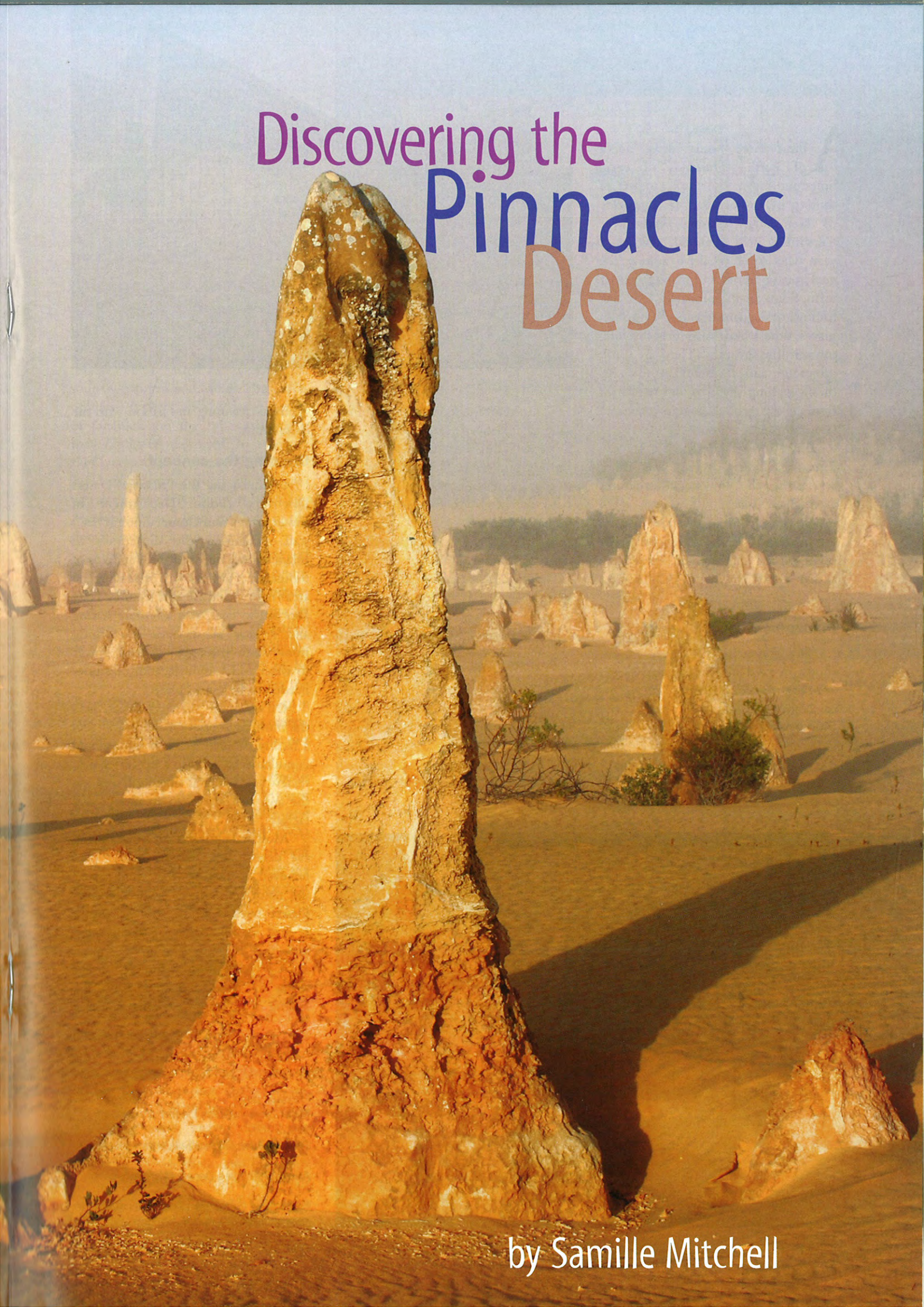
The new Pinnacles Desert Discovery interpretive centre and related visitor infrastructure has transformed the visitor experience for people journeying to Nambung National Park.




Discovering the
Pinnacles
Desert
by Samille Mitchell

About three hours' drive north of Perth, thousands of eerie limestone pillars rise from a desert of shifting yellow sands. The 'pinnacles' of Nambung National Park near Cervantes lure 300,000 visitors a year who stroll or drive among the geological oddities and marvel at their form. Some of the pinnacles look like tombstones guarding long-forgotten graves, others like stalagmites reaching towards the heavens. They are both grotesque and beautiful in form as they cast long shadows and transform from yellow through to gold in the late afternoon light.

But, these days, a visit to the Pinnacles Desert is not just about witnessing the limestone structures themselves. Today, visitors can learn much about these strange natural creations and Nambung National Park's other natural and cultural phenomena at the new state-of-the-art Pinnacles Desert Discovery interpretive centre.

Pinnacles Desert Discovery

The Pinnacles Desert Discovery centre opened in November 2008 to enhance the experience for visitors to Nambung National Park. Using soundscapes, video footage, back-lit panels, objects and static displays, the centre takes visitors on a sensory journey through the national park.

The centre also features a retail gallery, improved car parking, new toilet facilities, a new ticket booth and a group shade shelter. Visitors can set out from the centre on a marked 1.5-kilometre walk trail through the Pinnacles Desert.

Such facilities were designed with sustainable development principles in mind, incorporating solar power, passive solar building design, rainwater collection and use, and an environmentally friendly primary sewage treatment facility.

The building was designed by Woodhead International project architect John Nichols, whose brief was to come up with a building design that blended with the site rather than imposed upon it. Coming up with such a brief was a lengthy task involving extensive planning and liaison with the community.

Creating the concept

In envisaging the Pinnacles Desert Discovery centre, Department of Environment and Conservation (DEC) staff recognised the difficulties in balancing the needs of the hundreds of thousands of visitors with preserving the area's natural and cultural features. They also had to deal with a remote setting and a lack of services—everything from waste management and power to water and communications facilities needed to be put in place.

On top of this, there was debate as to the most appropriate location for such a facility. As such, DEC commissioned consultants to develop a master plan to review six potential sites to determine the area best suited to an interpretive facility.

Most stakeholders surveyed during the development of the master plan believed a facility that interpreted the natural wonders of the Pinnacles Desert needed to be located within at least six kilometres of the features, and that any development should not be visible from within the desert so as to avoid detracting from the feeling of a 'remote' experience. There

Previous page
Main The Pinnacles Desert shrouded in mist.
Photo – Alice Gillam/Sallyanne Cousans

Above Pinnacles Desert Discovery centre.

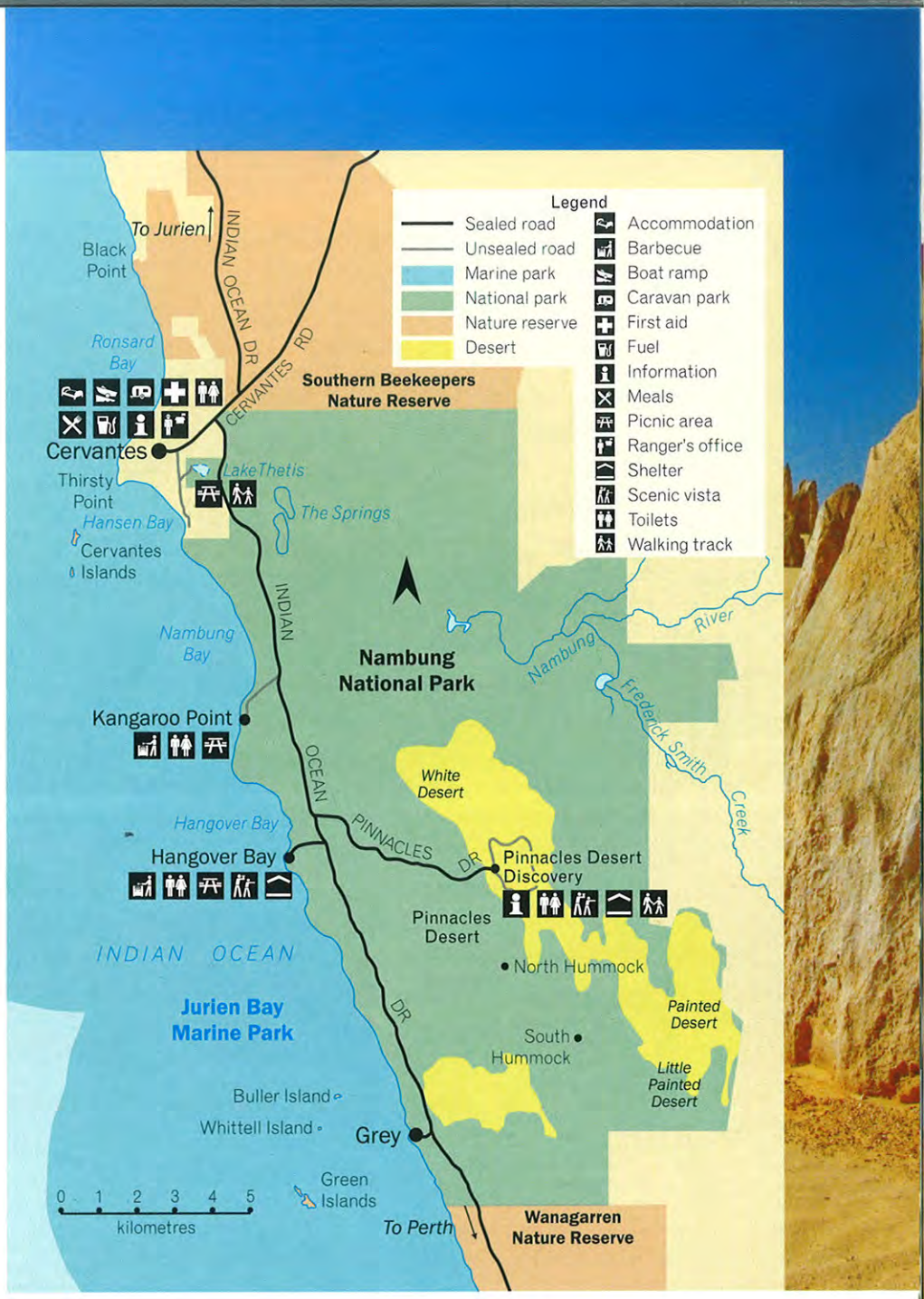
Left Inside Pinnacles Desert Discovery.
Photos – John Gollings

was also a general concern that the number of visitors was starting to have a detrimental impact on the site and that visitors needed to be carefully managed to ensure these impacts were minimised.

The consultants conducted extensive visitor surveys to identify what tourists valued at the site and what they felt was needed to improve their experience. At the same time, other consultants were contracted to review existing visitor numbers, market sources, patterns and trends. The results of these surveys informed the design of facilities and the types of service that would be delivered. In addition, DEC consulted extensively with the Yued traditional owners of the area to ensure they were supportive of any development and were involved in the design and development process.

From the extensive consultation and research, it became clear that the centre should not impinge on the remote and natural values of the Pinnacles Desert—rather than being a 'feature' of the site it should blend in with the environment. Facilities needed to be simple in design, not visible from the desert, offer an interpretive experience and include sustainable building design, environmentally sensitive power delivery and sewage treatment.

The resultant product was a finalist in the World Architecture Awards in Barcelona in October 2008 and won the Federal 'Best of State (WA) Commercial Interior Design Award' in 2009. The centre also took out the State Tourism Award in 2009 for best 'New Tourism Development'.



Winds of time

While the Pinnacles Desert Discovery centre has breathed new life into the area and enhanced the experience for visitors, the pinnacles themselves remain the main attraction. So how did these odd-looking natural structures come to be here? The answer lies in the conspiring forces of sea, wind, sun, rain, plant growth and fire.

The process began during an ancient epoch rich in marine life, when seas broke down shells into lime-rich sands and the waves tossed the sands ashore. From here, the winds took on a role, blowing the sands inland to form high, mobile sand dunes. Then the rain stepped in, falling on the dunes and dissolving small amounts of calcium carbonate as the water percolated down through the sand. The sun played its part by drying out the dunes and cementing grains of sand together to eventually produce a hard limestone rock called Tamala limestone.

At the same time, vegetation that became established on the surface stabilised the sand and decayed plant and animal matter caused a more acidic layer of soil and humus to develop over the remaining quartz sand. The acidic soil accelerated the leaching process, and a hard layer of calcrete formed over the softer limestone below. Plant roots exploited cracks which formed in the calcrete layer, forming a channel for water to seep to the softer limestone beneath. This softer limestone was slowly leached away and the channels gradually filled with quartz sand. The subsurface erosion continued until only the most resilient columns remained.

Fire then played its part, denuding higher areas of vegetation so the wind could carry away loose quartz sands. As the winds blew the sands away, limestone pillars slowly emerged from the surrounding plains in the form of the pinnacles we marvel at today.

More than pinnacles

The 18,972-hectare Nambung National Park also protects beaches, coastal dunes, shady tuart tree groves, caves, cliffs and low heathlands rich in flowering plants. The heathland is

Above Pinnacles Desert.
Photo – Bill Belson/Lochman Transparencies

Far left Native wisteria.

Left Galah, which frequent Nambung National Park.
Photos – Jiri Lochman

particularly beautiful in winter and spring as wildflowers burst into bloom. During this time you may see old man's beard (*Clematis linearifolia*) and native wisteria (*Hardenbergia comptoniana*) clambering over the vegetation in white and vibrant purple growth. Wattles such as red-eyed wattle (*Acacia cyclops*) and saw tooth wattle (*A. truncata*) are also common, as are banksia species such as candle banksia (*Banksia attenuata*), firewood banksia (*B. menziesii*) and sawtooth banksia (*B. prionotes*).

Such vegetation harbours several native mammals and birds. The western grey kangaroo (*Macropus fuliginosus*) is the most obvious inhabitant, often visible in the early mornings and late afternoons. You may also see an echidna (*Tachyglossus aculeatus*) trundling along a bush track or emus, galahs or threatened Carnaby's black cockatoos screeching from the tree tops. Keen-eyed visitors may also spot a bird of prey such as a black-shouldered kite or osprey hovering above the ground in search of a meal. Also look out for reptiles such as bobtails (*Tiliqua rugosa*), Gould's monitors (*Varanus gouldii*) and non-venomous south-west carpet pythons (*Morelia spilota imbricata*)—even if you don't see the species themselves you may note their tracks left behind in the sands of Pinnacles Desert.

Exploring Nambung

You can explore the park's natural wonders at the Pinnacles Desert as well as one of several recreational sites in the park. Visit Lake Thetis to set out on a 1.5-kilometre return loop trail around the lake where you'll see a threatened ecological community of stromatolites and other bacteria (see 'Living fossils at Lake Thetis', *LANDSCOPE*, Spring 2009). Stromatolites provide clues to some of the earliest life on Earth. The first stromatolites formed 3.5 billion years ago and may have played a key role in transforming life on the planet. Cyanobacteria in the rocky structures converted carbon dioxide into oxygen on a massive scale, thus paving the way for the earliest oxygen-dependent life. You can learn about the stromatolites' fascinating role in the Earth's history by reading interpretive signage along the walk trail.

On the coast, Hangover Bay lures ocean lovers with its wide sweep of sandy beach and azure water. The bay is particularly popular for swimming and snorkelling and features barbecues, a picnic area with shelters

and interpretive information on the area's natural features and the adjoining Jurien Bay Marine Park.

Nearby Kangaroo Point offers another coastal recreation area, with toilets, barbecue facilities, picnic sites and beach access. This is a popular shore-fishing and boating area.

Aboriginal history

Aboriginal artefacts at least 6,000 years old have been found in the park and include campsites, artefact scatters and shell middens, as well as ceremonial places and sites with mythical associations. These were left by the Yued people who frequented the Nambung area. These people would visit the area each summer, drawn to the lakes and swamps of the interdunal valleys of the limestone belt which provided tortoises, fish, waterbirds and shellfish.

Wells were particularly important in the arid stretch of coast north of the Moore River, and native wells and paths marked the regular progress of Aboriginal people through and around their country. The limestone belt was also of considerable significance to Aboriginal mythology, particularly in association with caves and underground caverns. The mythical Wagyl serpent is said to have passed through blowholes, pools and springs that lead into underground caverns on its journey to the sea.

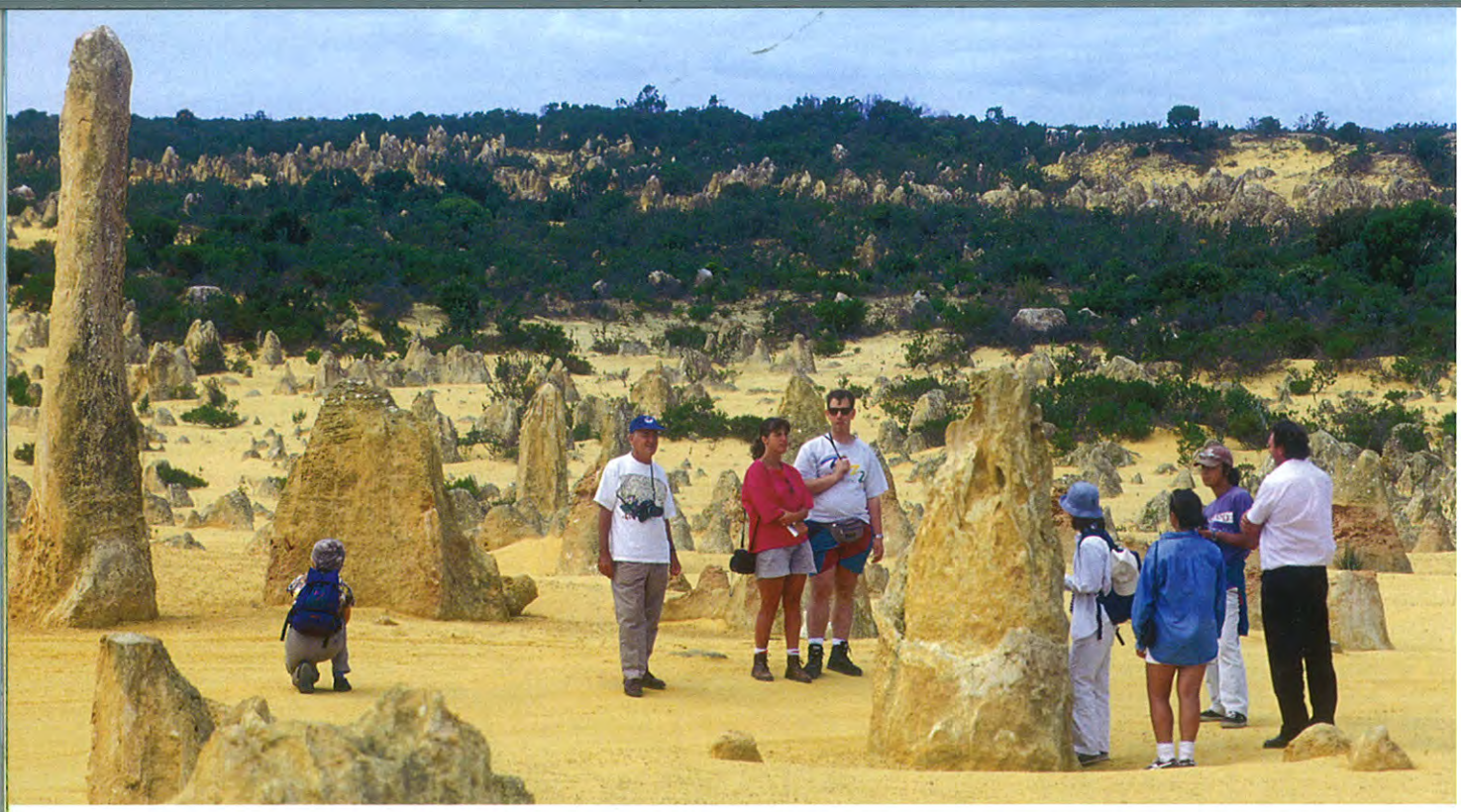
Above Hangover Bay.
Photo – Dennis Sarson/Lochman Transparencies

Many place names in the area have Aboriginal origins, although not necessarily local to the area. For example, Wyip and Warrup pools in Nambung National Park were named after two Aboriginal people who accompanied explorer George Grey's party on its forlorn trek to Perth (see 'Captivating Kalbarri' on page 46). The descendants of the traditional Aboriginal owners now live in Perth, Geraldton, Moora, Mingenew, Three Springs, Mogumber and other nearby towns.

European history

The first-known European recording of the Nambung area dates back to 1658 when the North and South Hummocks appeared on Dutch maps. The pinnacles may have been mistaken for "a small city a short distance inland" by the Dutch mariners but they could not be investigated further because of treacherous reefs guarding the coast.

In 1839, George Grey was shipwrecked at Kalbarri and, on his trek back to Perth, he discovered a watercourse in the Nambung area, naming it the Smith River after a member of his group who perished nearby. However, JS Brooking later



Above Visitors explore the Pinnacles Desert on foot.
Photo – Dennis Sarson/Lochman Transparencies

Left Pinnacles Desert drive.
Photo – Brett Dennis/Lochman Transparencies

renamed the Smith River the Nambung River, originally recorded as Namban River. The spelling 'Nambung' was adopted in 1938, the name being derived from an Aboriginal word possibly meaning crooked or winding.

From 1889, a stock route ran between Dongara and Perth, passing through the area now known as Nambung National Park and Southern Beekeepers Nature Reserve. The route was soon abandoned but was not officially closed until 1971. During World War II, the army used the route and, after the war, it provided a dusty highway for apiarists, hunters, trappers and holiday makers.

The Nambung area gained more attention in the early 1900s when phosphate was discovered in the caves of the Nambung River valley. Local farmers mined the phosphate on an intermittent basis from 1906. In 1927, the area was afforded protection with the declaration of a temporary reserve to protect the caves and their dazzling formations.

Despite this early period of activity at Nambung, it appears the pinnacles remained undiscovered. Their first recorded mention seems to have come from a geological survey report in 1934.

Into the future

The development of Nambung National Park and the construction of the Pinnacles Desert Discovery centre have attracted hundreds of thousands of visitors to this remarkable part of the State. But visitor numbers are expected to skyrocket further with the completion of the long-awaited Indian Ocean Drive in late 2010. This coastal drive from Perth to Geraldton will provide an alternative route to the Brand Highway, bringing unprecedented numbers of visitors along the coast and through Nambung National Park.

DEC has planned for the increase in visitor pressure with the development of the Pinnacles Desert Discovery centre and its related infrastructure. It has also earmarked Hangover Bay for a major upgrade that will at least double the amount of visitor infrastructure there. With such planning, more and more people will be able to immerse themselves in the wonders of Nambung National Park, without damaging the very environment they've come so far to admire.

Samille Mitchell is a Department of Environment and Conservation (DEC) features writer and editor. She thanks DEC staff George Watson, Derren Foster and Keith Hockey for their help with the article.

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