




MIND THE GAP



by Lorna Charlton, Jeremy Flynn and Rhianna King

A new improvement program at Torndirrup National Park is celebrating and showcasing The Gap and its spectacular surrounding environment, while providing safe state-of-the-art visitor facilities.



“It’s the ancient processes that have worked over millions of years that have created the geological legacies that people flock to see.”

Located just 10 kilometres from the centre of Albany, Torndirrup National Park is one of the area’s most beloved parks. Boasting a breathtaking coastline where windswept coastal heaths give way to massive granite outcrops, sheer cliffs and steep sandy slopes and dunes, the area is home to a range of vegetation types including peppermint and karri trees and the rare blue tinsel lily. And native animals that are found here include the endangered western ringtail possum, western pygmy possum, western grey kangaroo, quenda and bush rat as well as carpet pythons, tiger snakes, dugites and the rare Main’s assassin spider. At the right time of year, spectacular views across the Southern Ocean, which extends as far south as the shores of Antarctica, also reveal whales and seals that sometimes visit the coast.

But the story behind this spectacular coastline is more complex than what meets the eye. It’s the ancient processes that have worked over millions of years that have created the geological legacies that people flock to see. About 1350 million years ago Antarctica and Australia

collided and stayed joined for about 1300 million years. During this time rocks called granodiorite and gneiss formed many kilometres below the surface under extreme temperatures and pressure. Antarctica and Australia eventually rifted apart and then waves, saltwater spray, rain and groundwater slowly sculpted the exposed coastline, including the Natural Bridge and The Gap that is there today.

OVERWHELMED WITH LOVE

A popular day trip from Albany, The Gap and Natural Bridge attract about 240,000 visitors each year. This popularity has seen the visitor area struggle to meet demand with only a three-metre-wide platform at The Gap, while the Natural Bridge was one of the several geohazards identified in the area at risk of collapse or subject to rockfall.

Between 2011 and 2015, the State Government committed \$6.1 million through the \$21.05 million *Parks for People* Royalties for Regions initiative towards a new development to improve visitor safety and deliver state-of-the-art facilities to enhance visitor experiences

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Main The Natural Bridge at Torndirrup National Park, Albany.

Inset The platform lookout over The Gap.

Above Enjoying views across the Southern Ocean and to the waves crashing nearly 40 metres below.

Photos – Damon Annison

at the park. The area now boasts new accessible viewing structures at The Gap and Natural Bridge, paths, a picnic area, visitor information and parking capacity for 27 cars, two ACROD vehicles, four motorcycles and two long vehicles.

A DESIGN CHALLENGE

Designing visitor facilities for Western Australia’s national parks presents a range of opportunities and challenges. Often it is the irregular and rugged nature of the features that are destined to be showcased, that require landscape architects and contractors to be innovative and creative with their designs. There are also times when crews on the ground need to overcome a number of logistical challenges.



Welcome to Torgadirrup

The Mirngang people are descendants of an ancient culture in which storytelling is used to convey important knowledge, values and beliefs. These stories explain how the spirits of the ancestors were passed on to their descendants and confirm the deep spiritual connection our people have to this land and sea.

"Two Mirngang brothers had their differences and were fighting over a young woman. The elders became tired of their squabbling and sent them to a place near The Gap.

They made one stand on one side of The Gap and one on the other side. One brother was good at throwing spears, while the other was good at throwing boomerangs. As the first brother threw a boomerang, the second threw his spear.

The first brother was struck by the spear. The other brother was struck in the back by a boomerang and turned into a shark. The fin on the shark is the boomerang. The brother who was hit by the spear turned into a stingray."

This story was made available by the sons of Norngen. Torgadirrup is the local Aboriginal name for Torndirrup.

Top left The magnificent structure offers a safe but exhilarating experience.
Photo – Peter Nicholas/Parks and Wildlife

Top centre Western pygmy possums are found in the park.
Photo – Jiri Lochman

Above left The revitalised facilities at the park include accessible walkways.

Above The facilities are well suited to visitors of all ages.
Photos – Damon Annison

The development at Torndirrup National Park was no exception.

In 2011, the ambitious objective was set: to create an aesthetically pleasing facility that provides safe access for all to experience nature at its breathtaking best, while preserving and enhancing the exhilaration of the iconic Gap and Natural Bridge. In response, Parks and Wildlife landscape architects and architectural designers designed a structure, which was engineered by GHD Pty Ltd, enabling visitors to safely venture over a precipice to stand on a platform nearly 40 metres above the crashing ocean below as part of a complex of facilities. Designers and builders faced a number of challenges including site access, rock instability and selecting materials that could withstand harsh marine and weather conditions. These were overcome with a high level of planning and attention to detail.

SOLID ROCK

The most important factor in the lookout's design was the rock foundation. The gneiss beneath the lookout is incredibly strong but the rock contains

natural faults and joints near the cliff face. Behind this unstable area is solid, stable rock that provided the perfect foundation for the lookout. A 3D laser site survey studied the rock joints and overhangs. This data was used to design the trajectory for five stainless steel beams that were created to follow the natural surface and extend up to four metres from the edge. These beams support a lookout platform that is more than eight metres wide with a 1.2-metre-high railing that gives visitors a thrilling view of the rocks and crashing waves below. These beams are secured by 30-millimetre-diameter stainless steel rock anchors fixed up to nine metres deep into stable intact rock. The anchors were tested to 1.5 times their design load of 170kN (which is equal to hanging about 10 family-sized cars from each anchor).

Sourcing the appropriate materials to withstand the harsh conditions was an important part of the process. The beams are made from Duplex 2205 stainless steel and offer a higher strength than conventional stainless steel with higher resistance to staining, corrosion and cracking. Fibre-reinforced grated panels



See remarkable vision of the new facilities at Torndirrup National Park

Scan this QR code or visit Parks and Wildlife's 'LANDSCOPE' playlist on YouTube.



Do it yourself

Where is it? 10 kilometres south of Albany across Princess Royal Harbour. There is well-signposted road access via Frenchman Bay Road. Sealed roads lead to all major features.

Total area: 3936 hectares.

What to do: Walking, sightseeing, photography, fishing, rock climbing (for experienced rock climbers with proper equipment), abseiling, whale watching. A whaling museum at Discovery Bay makes a fascinating visit.

Facilities: Toilets, information, interpretive signage, car parks. A recreation camp at Quararup is run by the Department of Sport and Recreation. Contact the department for more information and bookings.

Nearest Parks and Wildlife office: South Coast Regional Office, 120 Albany Highway, Albany, phone: (08) 9842 4500.

provide a lightweight but strong nonslip surface making the structure safe for use year-round.

While large parts of the construction were undertaken by local BGC Construction contractors, high quality stainless steel components were fabricated individually in Sweden and transported to Albany for installation. Extensive measures were undertaken to minimise environmental impact during construction. Existing path alignments and degraded areas were chosen to minimise disturbance, old paths not in use were removed and areas rehabilitated. Vehicle and machinery access was limited to a temporary access track to preserve both the natural rock surface and remnant vegetation. Almost all rock removed for the construction of paths and lookouts was re-used for landscape works within the site. Any vegetation that needed to be removed was retained for rehabilitation. Juvenile plant specimens were stored in a protected area and used in revegetation.

AND THE VERDICT

Opened in April, the facility is already proving very popular with locals who are coming to check out the newest attraction in their neighbourhood, and among visitors

to the area. The experiences people have at the site changes with the weather – from enjoying the gentle and mesmerising heaving of calm seas to the adrenaline rush of buffeting wind and spray of winter storms from underfoot. The solid pathway and viewing area of the Natural Bridge provide a less confronting but still impressive window to one of Australia's most exposed coasts. Interpretive signage gives an insight into the cultural and geological history of the area and the design of the new viewing facilities.

The improvement project has not only supported local business through the construction phase with many local contractors engaged to undertake works, it will continue to generate social and economic benefits in the long term as a major tourism drawcard for the Albany region.

The Gap and Natural Bridge join the Granite Skywalk in Porongurup National Park, the Tree Top Walk at the Valley of the Giants in Walpole-Nornalup National Park and the Wilderness View Lookout in Mount Frankland National Park in offering outstanding views and nature experiences for visitors to Western Australia's national parks.

Below The huge stainless steel beams that form the base of the lookout.
Photo – Mike Shephard/Parks and Wildlife



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