



## Building the World Heritage rock cave - 2002

In approximately 2002 the Oligocene fossil site at Riversleigh, 350km N.W of Mt. Isa was declared a World Heritage Sites, being D-Site, Dr. Michael Archer representing the world heritage committee asked David Joffe, an ex QLD Museum preparator and his team from Natureworks Pty Ltd to design and build an interpretive shelter on this remote site to bring back to life two of the most significant creatures of this unique region being a giant terrestrial crocodile (wicken's Dreamtime crocodile) and a giant flightless bird (Barawertonesis tedfordi). The site itself was only accessible during the dry season.

In 2003, over a three month period, a 3 man team from Natureworks camped on site and undertook the construction of a large rock cave to house a prefabricated 3D reconstruction in bas relief, bringing back to life a moment in time 20 million years ago when this giant crocodile may have attacked the giant bird. There were no shops within 350kms and all materials were brought in along with generators tools, sand, steel, cement and all supplies. A composting toilet was installed for the touring public as part of the interpretive shelter which itself appeared to be a breakaway giant boulder of limestone which had rolled down from the surrounding escarpment. This man-made boulder/building was fabricated in steel, sand and cement and sculpted to appear to be one of the remnant fossil boulders. The logistics of building a structure this complex in such a hot remote region tested the company to its limits.

In May 2022, Natureworks has been asked to revisit the site to undertake further modifications to the structure for QLD National Parks and Wildlife Service. The site is still as remote now as it was then.



Exterior view of completed artificial rock Limestone cave

Internal view of Cave



Inside view of completed bas relief wall panel





## Building the Giant prehistoric bas relief

In the years 2002 this concrete structure was built on-site over 2 day seasons and houses the 6m x 2.4 metre high bas-relief reconstruction of Baru Wickeni the terrestrial crocodile attacking a giant flightless mihirung bird (Barawertornis tedfordi).

This moment in time reconstructing an attack on the bird is superimposed over a rainforest backdrop of prehistoric vegetation. The original sculpture was

in plasticine which was moulded and then cast in 6 separate panels of Glass-Reinforced Cement (GFRC). These were sent as pre-fabricated panels to the site to be morphed into the internal walls of the cave as the main feature art element.

A smaller bronze plaque which was inspired by the artists "Dunphy" depicting a megafauna swamp scene. This was also created at the Natureworks site and shipped to the D-Site for installation and also morphed into the internal cave walls of the man-made concrete limestone structure.





Riversleigh World Heritage Area information brochure

### Riversleigh lies within the traditional country of the Waanyi Aboriginal people

The Waanyi people know this region as their spiritual and sacred Boodjamulla (Rainbow Serpent) country. This sacred Ancestral Being created many of the region's striking landscape features. Archaeological deposits and artefacts in this area establish Aboriginal occupation to between 30,000 years before present, and today the Waanyi continue to feel a deep sense of responsibility for the safekeeping of this place. The Waanyi people's connection to the landscape is maintained through cultural practice on their traditional homeland. The Waanyi people's strong association to this country was recognised through the determination of Native Title in 2010. The Waanyi Native Title Aboriginal Corporation was established to hold in trust and manage native title rights and interests on behalf of the Waanyi people.

### Protection and management

By road, the Riversleigh World Heritage area is 260km north-west of Mount Isa and 60km south of Lawn Hill Gorge in North West Queensland.

*Visitation to Riversleigh is recommended from March–October due to the often impassable routes and high temperatures during the wet season.*

The Riversleigh World Heritage area extends across 10,000ha and sits within Boodjamulla (Lawn Hill) National Park. The area is protected, and is managed through coordinated partnerships between the Federal and Queensland Governments. A World Heritage Advisory Committee with representation from the Waanyi people and the scientific and general community provide advice relating to research, presentation, management and protection of Riversleigh.


Riversleigh's environment has changed dramatically over time and understanding how these changes occurred and their influence on the animals and plants that lived here, may assist in managing this landscape into the future.

### AUSTRALIAN FOSSIL MAMMAL SITES

# RIVERSLEIGH

## WORLD HERITAGE AREA



...one of Queensland's 9 World Heritage places.



### Further information

[des.qld.gov.au](http://des.qld.gov.au)

Queensland's World Heritage Family includes the Gondwana Rainforests of Australia, the Great Barrier Reef, the Wet Tropics, Fraser Island and Riversleigh World Heritage areas.



Riversleigh World Heritage Area information brochure



Once a lush rainforest, Black speart grass, *Xiphiola pungens*, now dominates Riversleigh's dry landscape. This grass forms mounds and has a strong smelling resin that drips down its leaf stem on extremely hot days, turning rock-hard when set.

**Riversleigh is one of the most important fossil sites in the world**

Riversleigh in North West Queensland, and Naracoorte in South Australia are among the world's greatest fossil sites—there is little wonder that they have been inscribed on the World Heritage List for their Outstanding Universal Value. Riversleigh represents some of the best and most diverse mammal fossils, and tells a unique story of the evolution of Australia's wildlife.

**WORLD HERITAGE**

World Heritage areas are places of such outstanding significance that their qualities make them universally unique and 'of significance' to all humanity.

Riversleigh and Naracoorte were inscribed on the World Heritage List in 1994. Both areas meet two of the ten World Heritage criteria: Outstanding examples representing major stages of earth's history, and Outstanding examples representing significant ongoing ecological and biological processes.

**RIVERSLEIGH'S FOSSILS ARE UNIQUE**

Riversleigh was once a lush rainforest scattered with lime mineral-rich freshwater pools—the limestone-forming geological processes that still occur at Riversleigh are the reason why fossils have formed here. Riversleigh contains fossils that span the Late Oligocene to Quaternary times (the last 25 million years) and contribute vastly to our knowledge of Australia's globally-unique history.

Very specific conditions are required for fossilisation to occur at a given site. After an animal or plant has died, burial by sedimentary deposits containing particular chemical and mineral components needs to occur—in Riversleigh's case ancient plants and animals were rapidly covered by the lime-rich mud, preserving them almost flawlessly.

The Riversleigh Fossil Centre located within 'Outback at Isa' in Mount Isa, Queensland, has fascinating reconstructions of prehistoric animals within the Riversleigh landscape as it was millions of years ago. For more information visit [experiencemountisa.com.au](http://experiencemountisa.com.au)

**EXPLORATION**

Mammal fossils at Riversleigh were first discovered in the early 1900s but it wasn't until the 1960s that the first exploration took place. Since this time scientific surveys have continued, and have revealed a plethora of fossilised mammals including wombat-like marsupials, carnivorous kangaroos, vast numbers of bats and other fossilised animals like giant flightless birds, tree-climbing crocodiles and horned turtles.

**A VIEW INTO AN ANCIENT WORLD**

Palaeontological surveys at Riversleigh have uncovered exceptional examples of the key evolutionary stages of Australia's wildlife. This was during a period of Australia's greatest diversity of animals and plant species, and such discoveries have revealed a deeper understanding of an ancient and mysterious world.

*Other World Heritage Sites include the Grand Canyon, the Egyptian Pyramids and the Amazon Rainforest.*

*There are 19 Australian properties on the World Heritage List—5, including Riversleigh, are in Queensland.*



Riversleigh World Heritage Area information brochure

Introducing some of Riversleigh's earlier inhabitants

Due to Australia's long isolation from other continents, some of the world's most distinctive animals evolved here—the fossilised bones of some can be seen along the walking track at Riversleigh's D Site.



*Barawertornis tedfordi* was a cassowary-sized flightless bird. The fossilised vertebra and gizzard stones of an even bigger bird species *Dromornis murrayi*, affectionately known as 'Big bird', can be seen in a large limestone rock beside the track at D Site. Gizzard stones are still used by many species—they are swallowed and accumulated in the gizzard to help grind up food.



Numerous species of crocodile have been discovered including the 5m long, Cleaver-headed *Baruwickia*. *Baru* had huge dagger-like teeth and lived around Riversleigh's freshwater pools about 24 to 16 million years ago. Other species of crocodile discovered at Riversleigh include *Mekosuchus sonderi*—a small crocodile with a short dog-like muzzle resembling a goanna that may have climbed trees, and *Tribaphosuchus rockhomi*—a crocodile that had three distinct ridge-like crests running along the top of its skull. A fossilised crushed skull of a crocodile can be seen along the Riversleigh Fossil Trail (below).



Relatives of the now extinct Tasmanian tiger have been discovered at Riversleigh. *Wimbacinus dicksoni* was a terrier-sized carnivore that hunted through the rainforests that existed here.



*Hypsiprymnodon bartholomaei* was a small rat-kangaroo closely related to today's rainforest-dwelling Musky rat-kangaroo, but far more primitive. Unable to hop, it used all four limbs to gallop. The *Hypsiprymnodon* was mainly frugivorous, eating mostly fruit, nuts and seeds, but would occasionally eat other small animals such as insects.



*Wambato oldfieldi* was a pouched lion about the size of a German Shepherd. These tree-climbing carnivores had two lower incisors that were used to stab prey and powerful moon-shaped blades on their premolars used for cutting up flesh and bone.



Riversleigh World Heritage Area information brochure

Visit for the day or camp nearby

Riversleigh has provided more knowledge on mammal evolution in Australia than any other fossil site. Riversleigh's D Site has a small interpretive shelter and a self-guided interpretive trail. The bluff, once part of a large rainforest lake, encases hundreds of fossils and is a 25 million-year-old representation of creatures that lived here. Some of the most significant fossil discoveries of mammals, reptiles, fish, and birds have been made at this site, some are still encased in rock for you to view.

WALK

The Riversleigh Fossil Trail

Easy to moderate | 800m return | allow 1 hour

Immerse yourself in an ancient landscape and experience part of the record of life—see fossilised limb bones of towering flightless birds and the remains of the largest known freshwater crocodile. The trail has many steps, is steep in places and there is little shelter along the way.

*Please help us preserve D Site—visitors are not permitted to traverse beyond the walking trail due to the highly sensitive values of the area. The World Heritage site is under periodic surveillance to help protect the fossils.*

CAMP

Two camping areas are available in the national park. For information on camping and to book, visit [qld.gov.au/camping](http://qld.gov.au/camping)

Accommodation and camping is also available at Adels Grove 50km drive north of D Site, email [reservations@adelsgrove.com.au](mailto:reservations@adelsgrove.com.au) or phone 07 4748 5502.

TOUR RIVERSLEIGH

Find out more about tour companies that visit Riversleigh by searching at [queensland.com.au](http://queensland.com.au)



Keep an eye out for the beautiful *Lysichiton cunninghamii* that grows up to 6m and has foliage with two leaflets joined like a butterfly's wings. This tree has a rough black trunk and produces red nectar-rich flowers that invite birds and insects to its branches.

