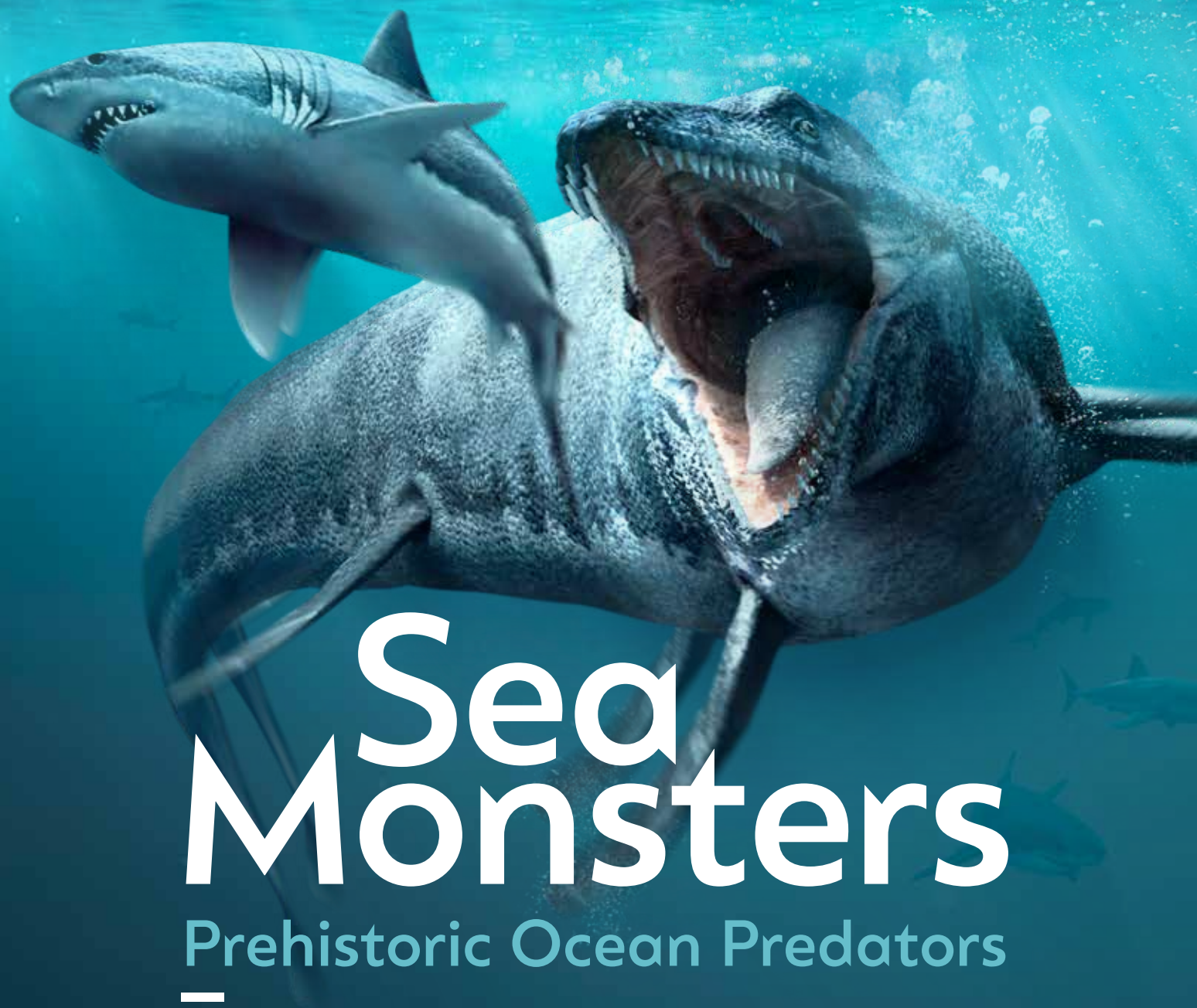


MEDIA KIT

QUEENSLAND MUSEUM



Sea Monsters

Prehistoric Ocean Predators

20 November 2020 – 3 May 2021

Exhibition Producer and Tour Manager

Queensland Museum Network
Exhibition Partner

Exhibition Development Partner

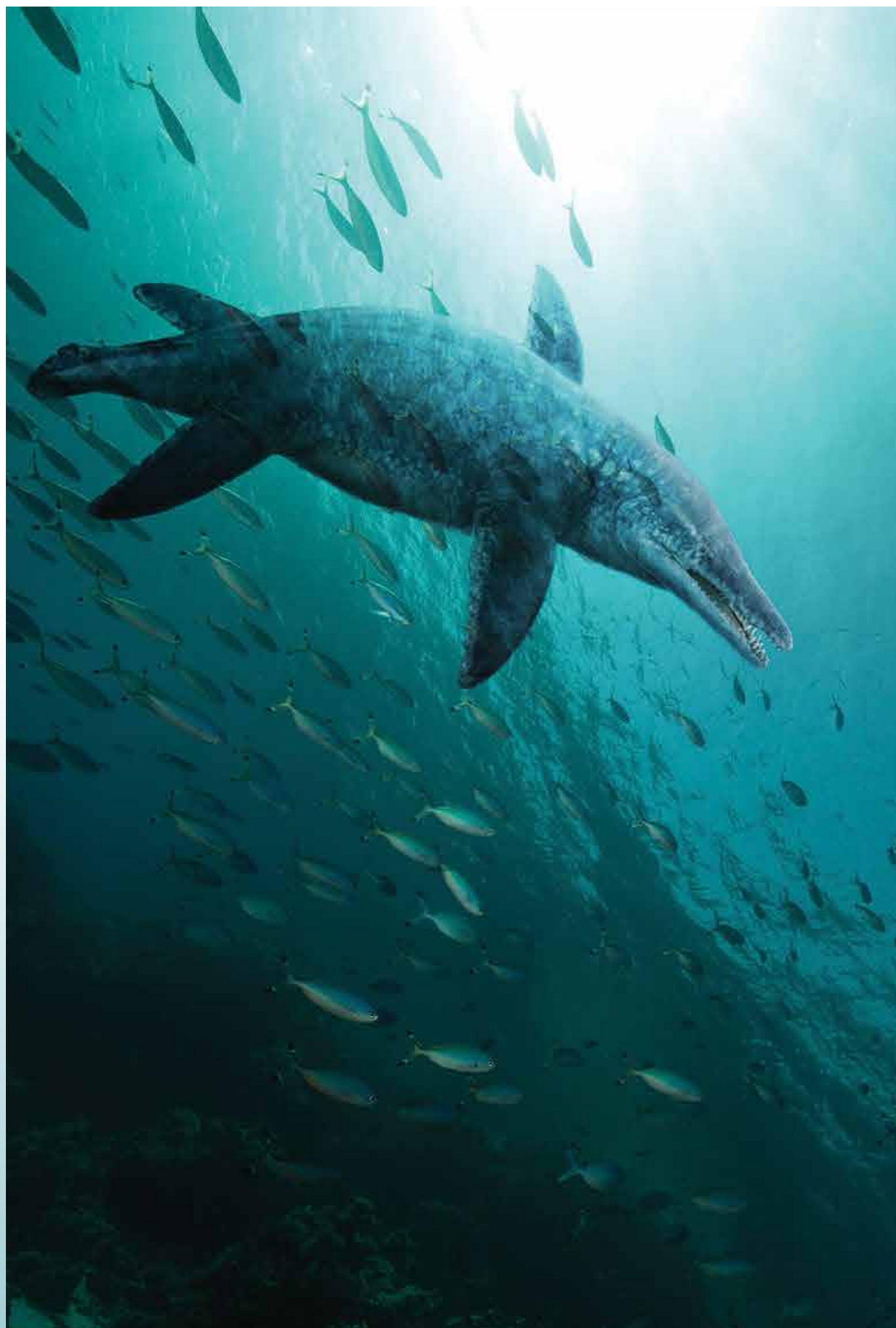
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Sea Monsters: Prehistoric Ocean Predators

Dive into Queensland Museum and come face-to-face with the prehistoric monsters who ruled the oceans millions of years ago in *Sea Monsters: Prehistoric Ocean Predators*.

The dinosaurs may have roamed the earth, but the oceans were home to some of the largest, fiercest and most successful predators ever.

Ancestors of three types of ancient reptiles left the land and colonised the seas, they were Ichthyosaurs (pronounced ick-thee-o-sore), Plesiosaurs (pronounced plea-zee-o-sore) and Mosasaurs (pronounced mow-sa-sores). These three groups developed into awesome sea monsters that make today's great white sharks seem small.

Created in consultation with one of the world's leading sea monster experts, Queensland Museum palaeontologist Dr Espen Knutsen, *Sea Monsters: Prehistoric Ocean Predators* features more than 70 displays including fossils from the museum's collection.

Exhibition highlights:

- More than 70 exhibits and displays.
- Come face-to-face with some of the ancient marine reptiles that hunted the depths of the oceans including a 13m long Elasmosaurus and 9m Prognathodon.
- Discover never-before-seen real fossils from millions of years ago, gigantic life-sized casts from real specimens and immersive multimedia that bring these ancient monsters of the deep back to life.
- See a huge 1.4m Kronosaurus jaw that has been placed on display for the first time in *Sea Monsters*.
- Learn how sea monsters evolved, ate, lived and more with interactive and hands on activities.

Sea Monsters is an Australian National Maritime Museum touring exhibition, developed in partnership with Queensland Museum Network, presented in Brisbane with support from BHP as part of Project DIG.

Tickets are now on sale for the exhibition which runs from 20 November 2020 – 3 May 2021.

For more information visit seamonsters.qm.qld.gov.au



Explore the exhibition

Back to the Sea

Life began in the world's oceans. Some creatures crawled onto the land and developed into a huge range of different species. Then some of these went back to the sea. We don't know why they went back. It may have been to find food or to avoid land-based predators.

Marine reptiles evolved from land-based reptiles. They had to change to survive in a very different environment. They had to be able to move through the water, breathe, find food, avoid predators and reproduce without returning to land.

They changed gradually, generation by generation. While they all faced the same challenges to live in the ocean, they solved them in different ways.



Ichthyosaurs

Ichthyosaur, (pronounced: ick-thee-o-sore) means 'fish-lizard'. They were the first major group of reptiles to go back to the sea, where they ruled for nearly 150 million years.

Ichthyosaurs were shaped like dolphins with streamlined bodies and powerful tails. This made them the fastest marine reptiles. Some could swim as fast as 40 kilometres per hour.

Ichthyosaurs were the biggest and some of the smallest marine reptiles. *Shonisaurus* grew up to 21 metres long – a bit longer than a cricket pitch. *Mixosaurus* was only as big as a cricket bat – about one metre long.

Plesiosaurs

Plesiosaur, (pronounced: plea-zee-o-sore) means 'near-lizard', as scientists felt they were more lizard-like than the ichthyosaurs or 'fish-lizards'.

All plesiosaurs had short tails, long flippers and flattened bodies. But they came in two different versions at the head-end – either small heads on long necks, or big heads on short necks.

They evolved after the ichthyosaurs, lived with them for about 100 million years, then out-last-ed them to share the oceans with the mosasaurs.

Plesiosaurs came in lots of different sizes, from a bicycle-sized 1.5m long to a bus-sized 15m long.

Mosasaurs

After the ichthyosaurs and plesiosaurs came the mosasaurs (pronounced mow-sa-sores). Mosasaurs were powerful swimmers with goanna-like bodies, long snouts and forked tongues. Their paddles were formed from soft tissue covering their long finger bones. They used them for steering as their tails pushed them through the water. Unlike ichthyosaurs and plesiosaurs, they kept their scaly skin.

Mosasaurs ate anything: ammonites, fish, turtles, plesiosaurs other mosasaurs and even sea birds. The only thing a mosasaur had to fear was a bigger mosasaur. Mosasaur skulls with bite marks from other mosasaurs suggest they might have fought each other for food, territory or mates.

Some reached enormous sizes; others lurked in the shallows ready to ambush whatever came by. Some developed heavy rounded teeth to crush the thick shells of their prey.

Extinction and Survivors

Ichthyosaurs, plesiosaurs and mosasaurs are long gone; now other predators stalk the seas. The extinction of these marine reptiles made way for sharks and whales to flourish, and some evolved into huge, terrifying hunters. We may think today's great white sharks and killer whales are scary, but they're nothing compared to their ancient cousins.

In their Place

The sea has been ruled by some awesome predators. Superbly adapted marine hunters have evolved and survived for millions of years. Reptiles, whales and sharks have hunted its depths, fearing nothing but themselves ... until now.

Today, there's a bigger threat to ocean life – a much scarier one that's a lot more destructive – us. The impacts of our pollution, over fishing, climate change and shipping make us the real sea monsters.

Queensland Museum Research

The ancient marine reptile research at the Queensland Museum is led by Senior Curator Dr Espen Knutsen. Dr Knutsen's early research focused on 145 million-year-old marine reptiles from the Arctic Archipelago of Svalbard in Norway. Dr Knutsen spent six field seasons digging for fossils in this polar bear-rich region near the North Pole. His team discovered and collected more than 40 marine reptile skeletons, resulting in describing eight new species, including one of the world's largest plesiosaurs.

Working for Queensland Museum, Dr Knutsen has changed his fieldwork from one of the coldest places on Earth to one of the warmest. Despite the different climate and different hemisphere, the animals he finds in Queensland are similar to those that lived tens of millions of years earlier on the other side of the planet.

Recent discovery

Dr Knutsen's most recent research find was in July 2020. The fossil remains of an elasmosaurid (long-necked) plesiosaur were discovered at a cattle station east of Hughenden in western Queensland. The fossil was excavated in September 2020, and is now being prepared and stabilised at the Museum of Tropical Queensland, Townsville, so that it can be further studied.



Meet the Sea Monsters

Ancestors of three types of ancient reptiles left the land and colonised the seas. They were **ichthyosaurs**, **plesiosaurs** and **mosasaurs**. These three groups developed into awesome sea monsters that make today's great white sharks seem small. Are you ready to meet them?



Ichthyosaurs

Ichthyosaur (pronounced: ick-thee-o-sore) means 'fish-lizard'. They were the first major group of reptiles to go back to the sea, where they ruled for nearly 150 million years.

There have been lots of different shapes and sizes of ichthyosaurs. Early versions had long, bendy bodies, but over time they became more streamlined, with compact, rigid bodies and crescent-shaped tails – like tuna and sharks. They developed more bones in their flippers to stiffen them and used them for steering. Their powerful tails made them the fastest marine reptiles – some could swim as fast as 40 kilometres per hour.

Ichthyosaurs were great hunters. They had large eyes to see in the dark depths and lots of teeth to snap up slippery prey. Like dolphins, they breathed air, gave birth to live young and were probably warm-blooded.

They were discovered by children – Mary Anning was 12 when she and her 15-year-old brother Joseph found the first complete fossil in 1811.



Don't call them dinosaurs

Not all big, scary, extinct reptiles were dinosaurs.

Marine reptiles were around at the same time as the dinosaurs but were not closely related.

Dinosaurs were a particular type of reptile. They came in different shapes and sizes, but all walked with their legs directly below their hips. Today's reptiles, like crocodiles or goannas, have legs that splay out sideways from their bodies.



Mosasaurus

Mosasaurus (pronounced mow-sa-sores) arrived five million years after the ichthyosaurs died out and soon replaced plesiosaurs at the top of the food chain. Their fossils show a steady sequence of changes as they evolved from small lizards living on the water's edge to the ocean's top predators.

They were powerful swimmers with goanna-like bodies, long snouts and forked tongues. Their paddles were formed from soft tissue covering their long finger bones. They used them for steering as their tails pushed them through the water. Unlike ichthyosaurs and plesiosaurs, they kept their scaly skin.

Mosasaurus ate anything: ammonites, fish, turtles, plesiosaurs, other mosasaurs and even sea birds. The only thing a mosasaur had to fear was a bigger mosasaur. Mosasaur skulls with bite marks from other mosasaurs suggest they might have fought each other for food, territory or mates.

They dominated the world's oceans and inland seas for 30 million years until they went extinct, along with the plesiosaurs, at the end of the Cretaceous period. This extinction marked the end of the era when reptiles ruled the seas.



Plesiosaurs

Plesiosaur (pronounced: plea-zee-o-sore) means 'near-lizard', as scientists felt they were more lizard-like than the ichthyosaurs or 'fish-lizards'. They evolved after the ichthyosaurs, lived with them for about 100 million years, then outlasted them to share the oceans with the mosasaurs.

Plesiosaurs spread across the whole world. Their fossils have been found on every continent, including Antarctica.

All plesiosaurs had short tails, long flippers and flattened bodies. But there were two different versions at the front end – either small heads on long necks, or big heads on short necks. Both types were streamlined with smooth skin to slide through the water.

Their bodies were almost almond-shaped – five and a half times longer than they were wide. These are the same proportions as other swimming hunters, including sea lions and penguins. Plesiosaurs came in lots of different sizes, from a bicycle-sized 1.5 m long to a bus-sized 15 m long.

Meet Queensland Museum's palaeontologists

Queensland Museum's geosciences research spans over 4.5 billion years of history—from the study of meteorites from the outer solar system to ancient minerals formed deep in the Earth's crust, and 1.65 billion years of fossilised lifeforms.

Our collections, some acquired more than 160 years ago, and our associated research studies define Queensland in time and place. These collections document our unique biodiversity and help us understand Queensland's changing environment.

Queensland has the most comprehensive fossil heritage in Australia, dating back 1700 million years and our palaeontological and geological staff are committed to recovering this record in the rocks and telling the story of our past.

Queensland Museum is at the forefront of Australian palaeontology, with a strong focus on basic palaeontology.



Dr Espen Knutsen

Dr Espen Knutsen is Senior Curator Palaeontology at the Queensland Museum Network, based at the Museum of Tropical Queensland campus in Townsville. His position is co-appointed with the College of Science and Engineering at James Cook University.

Originally from Norway, Espen completed his PhD at the University of Oslo in 2012.

He is a vertebrate palaeontologist, that over the past 12 years has conducted pioneering fieldwork and excavations in Australia, the Arctic, The Netherlands and USA . He has described five new species of Jurassic marine reptiles, and was part of an international multidisciplinary research team studying a newly discovered Jurassic marine ecosystem from the high-arctic archipelago of Svalbard, Norway.

The process and results of this pioneering project were featured in two TV documentaries – National Geographic's *Death of a Sea Monster* and History Channel/BBC's *Predator X*.

He has a special interest in the diversity, evolution and ecology of Mesozoic reptiles, such as ichthyosaurs, plesiosaurs and dinosaurs. Current projects, involving fieldwork throughout Australia for the *Australian Mesozoic Tetrapod Project*, aim to fill significant gaps in our knowledge and understanding of the Triassic, Jurassic and Cretaceous vertebrate fauna in the southern hemisphere.

Dr Knutsen was the consulting palaeontologist who helped curate *Sea Monsters: Prehistoric Ocean Predators*.



Dr Scott Hocknull

Dr Scott Hocknull is a vertebrate palaeoecologist, passionate science communicator and 3D digitisation and virtual technology advocate and practitioner in the museum community. He has over 20 years of experience in palaeontology having published his first paper aged 16, at the time Australia's youngest scientific author. He started at the Queensland Museum in 1990 as a 12-year-old volunteer, working in the palaeontology and geology department, and then landing his first job as a Queensland Museum Interpretation Officer, aged 17. In 2000 his dream job as a palaeontologist for Queensland Museum came true, making him then the youngest museum curator in Australia at age 22.

Realising that most of museum collections are hidden from public view, Scott has become a strong advocate for bringing the behind-the-scenes of museum collections and science to the public. Scott is passionate about applying new technologies to museum collections so that we can better interpret and demonstrate our natural and geo-heritage. He is currently working on new 3D digital and virtual ways to better capture our fossil heritage in digital perpetuity whilst using this same technology to do robust research and engage the public by providing more in depth experiences with Australia's vast fossil heritage. Scott is an advocate for strong regional and remote connections between museums, especially new and developing museums that house important fossil and geological collections. Scott has developed numerous multifaceted projects that bring together industry, philanthropy, multidisciplinary science and local communities to form long-term projects in palaeontology.



Dr Andrew Rozefelds

Dr Andrew Rozefelds is Head of Geosciences, in the Biodiversity and Geosciences Program in Queensland Museum.

Andrew rejoined the Queensland Museum in 2011, after working in the Tasmanian Museum and Art Gallery as the Curator of Phanerogamic Botany and then Deputy Director of Collections and Research. He previously worked at Queensland Museum from 1977 to 1991 in invertebrate zoology and geology and was involved in palaeontological fieldwork throughout Queensland. In 1991 he left the museum to undertake further studies in Adelaide; and then completed a PhD in botany at the University of Melbourne, with one year spent at the University of Zurich, Switzerland.

He has written over 90 peer reviewed and popular articles. His current research interests involve studying the origins, evolution and history of the modern Australian flora. Andrew has used various experimental techniques to study living and fossil plant material, including synchrotron imaging at the Australian Synchrotron. He has also published papers on fossil vertebrates and invertebrates, modern plant systematics and weed sciences, biographical research and other areas. He has described over 14 new species of living plants and a similar number of fossil plants.

About Project DIG

Project DIG is a ground-breaking five-year collaboration between BHP and Queensland Museum Network that will transform how we store, explore and share our collection and research with communities, students and scientists no matter where they are.



Queensland Museum Network has been collecting and documenting the natural and cultural history of our state, surrounding waters and near neighbours for nearly 160 years.

Today, we are custodian of the State Collection – comprised of 1.2 million cultural objects and natural history specimens and more than 14 million research items.

These objects and specimens remind us of events that have befallen us, of greatness achieved, of those we have loved, those we have lost and the unique environments we call home.

The sheer size of State Collection means that only a small portion can ever be displayed publicly.

Project DIG (Digital Infrastructure Growth) is helping to address this challenge.

This five-year collaboration between Queensland Museum Network and global mining company BHP combines state-of-the-art scanning, imaging and 3D technologies to digitise the State Collection. These digital techniques allow scientists to dig deeper, to reveal the stories beyond the surface, and share this knowledge worldwide, providing opportunities for innovators, researchers and students to work together to discover solutions to complex problems of international significance.

Examples of Project DIG initiatives are showcased within Sea Monsters: Prehistoric Ocean Predators and the Lost Creatures gallery on level two.

Want to know more?

www.projectdig.qm.qld.gov.au

About Queensland Museum

Queensland Museum Network (the Network) is the keeping place for the State Collection of more than 1.2 million objects and specimens, valued at more than \$546 million, and approximately 14 million research collection items. For more than 150 years Queensland Museum has grown alongside Queensland to inspire, enrich and empower communities.

About BHP

BHP is a world-leading resources company determined to make a positive difference through their performance, shaping change for the better through innovation, productivity and technology.

www.bhp.com

Images

A selection of images that are indicative of what visitors can expect when they visit *Sea Monsters: Prehistoric Ocean Predators*

Images for media use

A range of images of exhibition objects are available for download and use by media via the *Sea Monsters: Prehistoric Ocean Predators*

Dropbox Link > <https://www.dropbox.com/sh/9cjlyqdr9qrr83h/AAC3Xv8g-lqrqVMnJzCvHH7za?dl=0>

Supplied photo captions and credits — included in the image gallery — must accompany publication.



Tickets

Type	Price
Adults	\$15.50
Concession (Pensioner, Senior, Full Time Student)	\$13.50
Child (5–15 years)	\$12.50
Family (2 Adults, 2 children)	\$46.00
Member Adult	\$13.95
Member Concession	\$12.15
Member Child	\$11.25
Member Family	\$41.40
Season Pass Adult	\$31.00
Season Pass Concession	\$27.00
Season Pass Child	\$25.00
Season Pass Family	\$92.00

This is a COVID-Safe exhibition with timed ticketing and limited capacity. Bookings essential.

Timed ticketing

Sea Monsters: Prehistoric Ocean Predators is a timed ticketed experience, and is open daily from 9.45am.



Events & public programs

After Dark (18+ only)

Grab a drink and explore *Sea Monsters: Prehistoric Ocean Predators* and enjoy expert talks, demonstrations and displays and more. This is a licenced event with food and drinks available.

A Night at the Museum

Explore the museum as the sun goes down at our night time adventure for our smallest visitors.

Enjoy a space themed evening with plenty of fun for the whole family and entry to the entire museum including *Sea Monsters: Prehistoric Ocean Predators*

A selection of hot and cold family friendly food and drinks will available for purchase. The event is licensed. ID will be required to purchase alcohol

School Holiday Program

During the school holidays enjoy a range of Sea Monster themed activities the whole family can enjoy, including torchlight tours, story time, discovery days, performances and more. Please check

seamonsters.qm.qld.gov.au for more details.



Sea Monsters: Prehistoric Ocean Predators Shop

Loved finding out about the prehistoric predators that ruled the oceans?

Then a visit to the *Sea Monsters: Prehistoric Ocean Predators* shop on Level 3 is a must for those wanting to take home a souvenir to remember their experience.

There is a range of sea monster themed giftware including hats, backpacks, t-shirts and water bottles.



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Social media

#SeaMonstersQM #myqldmuseum

Facebook: [Facebook.com/qldmuseum](https://www.facebook.com/qldmuseum)

Twitter: @qldmuseum

Instagram: qldmuseum



