



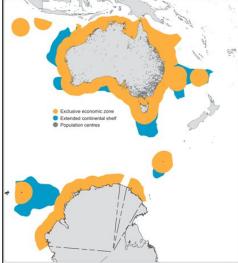
<p><b>Venues:</b></p> <ul style="list-style-type: none"> <li>• Questacon (Canberra) - 21 May to 31 August</li> <li>• Geoscience Australia (Canberra) - Sep/Oct for Open Day 17 October 2010</li> <li>• CSIRO Discovery Centre – February/March 2011</li> <li>• City of Wanneroo, WA – September/October 2011</li> <li>• City of Parkes library – December 2011/January 2012</li> <li>• Scientechnica, Museum Victoria - 18 February to 15 April 2012</li> <li>• Sir John Gorton Library - 30 July to 19 August 2012</li> <li>• Sydney Children's Hospital – 8 February to 17 May 2013</li> </ul>	<p><b>Support materials</b></p> <ul style="list-style-type: none"> <li>• Stickers</li> <li>• Flyer <a href="#">download</a></li> <li>• Posters – <a href="#">biodiversity in WA's deep sea</a> and <a href="#">New Australian sharks and rays</a></li> <li>• Sample education kit</li> </ul>
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	Captions	Copyright/ Permissions	Other users	Thumbnail
1.	<p><b>Introductory panel - Ensuring a future for life in Australia's oceans</b></p> <p>Australia is a marine nation. Eighty six percent of our population lives within 50 kilometres of the sea.</p> <p>Australia's sea territory is enormous, over 11 million square kilometres - half again as large as our land territories (excluding Antarctica). The seafloor of these waters range from shallow coastal fringes to deep-sea plains and plateaus. Australia's tallest mountain, Mt Kosciusko, would stack several times over with room to spare in deep-sea canyons such as the Tasman Fracture.</p> <p>But what is known of the wildlife and habitats in Australia's ocean waters?</p> <p>It has only been in the last few decades that researchers have begun to find out. Through new technologies, exploration of hidden deep-sea worlds and specialist research teams, new marine species and habitats are constantly being discovered.</p> <p>Only about five percent of our ocean has been explored in detail with some scientists suggesting that only one in five marine species have so far been discovered.</p> <p>Meanwhile the marine environment is changing. Tropical corals are being threatened by warmer and more acidic waters, while the waters off southeast Australia are warming faster than anywhere else in the world, pushing mainland species to Tasmania.</p> <p>To know is to care, and the NERP Marine Biodiversity Hub has arranged for this exhibition to showcase our rich seas and wildlife and the research discovering new worlds.</p> <p><a href="http://www.nerpmarine.edu.au">www.nerpmarine.edu.au</a></p>			<p><b>Ensuring a future for life in Australia's oceans</b></p>  <p>Australia is a marine nation. Eighty six percent of our population lives within 50 kilometres of the sea.</p> <p>Australia's sea territory is enormous, over 11 million square kilometres - half again as large as our land territories (excluding Antarctica). The seafloor of these waters range from shallow coastal fringes to deep-sea plains and plateaus. Australia's tallest mountain, Mt Kosciusko, would stack several times over with room to spare in deep-sea canyons such as the Tasman Fracture.</p> <p>But what is known of the wildlife and habitats in Australia's ocean waters?</p> <p>It has only been in the last few decades that researchers have begun to find out. Through new technologies, exploration of hidden deep-sea worlds and specialist research teams, new marine species and habitats have been discovered.</p> <p>Only about five percent of our ocean has been explored in detail with some scientists suggesting that only one in five marine species have so far been discovered.</p> <p>Meanwhile the marine environment is changing. Tropical corals are being threatened by warmer and more acidic waters, while the waters off southeast Australia are warming faster than anywhere else in the world, pushing mainland species to Tasmania.</p> <p>To know is to care, and the NERP Marine Biodiversity Hub has arranged for this exhibition to showcase our rich seas and wildlife and the research discovering new worlds.</p> <p>The Marine Biodiversity Hub is a collaborative partnership funded by the Commonwealth Environment Research Facilities (CERF) program. Our partners include the Department of Sustainability and Environment, public good research partners include Flinders University, University of Tasmania, CSIRO, Murdoch University, University of Western Australia, University of Melbourne, Australian Institute of Marine Science, and Museum Victoria. <a href="http://www.nerpmarine.org">www.nerpmarine.org</a></p> 

 <p><b>Australian Government</b></p> <p>Department of Sustainability, Environment, Water, Population and Communities</p> 	 <p><b>MUSEUM VICTORIA</b></p>  <p><b>CSIRO</b></p>	 <p><b>CHARLES DARWIN UNIVERSITY</b></p>  <p><b>Australian Government</b></p> <p>Geoscience Australia</p>	 <p><b>THE UNIVERSITY OF WESTERN AUSTRALIA</b></p> <p><i>Achieving International Excellence</i></p>  <p><b>AUSTRALIAN INSTITUTE OF MARINE SCIENCE</b></p>
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## Theme - Understanding Australia's marine life

2.	<h3>Australia's ocean territory</h3> <p>In 2008, the United Nations Commission on the Limits of the Continental Shelf recognised Australia's claim to an additional 2.56 million sq km of seafloor. This is equivalent to five times the area of France, 10 times the area of NZ or 20 times the area of Great Britain. The vast majority of our marine territories remain unexplored.</p> <p>Source: CSIRO, ABS,  © Commonwealth of Australia (Geoscience Australia) 2010.</p>	© Geoscience Australia		
3.	<h3>Coral reefs</h3> <p>Coral reefs cover only 1% of the world's oceans but provide homes for 25% of the known marine species. The largest coral reef in the world is Australia's Great Barrier Reef, also one of the largest marine protected areas in the world. It is relatively young as coral reefs go – only 500,000 years old or 6,000 years old in its present position.</p> <p>Photo: Gary Bell</p>	© oceanwideimages.com (licence issued to Museum Victoria) Would need permission from oceanwide for any other use - see email 18/5/2010 Meri Bell, Image Licensing Manager		
4.	<h3>Giant kelp forests</h3> <p>At 30 metres high, the giant kelp forests of Tasmania contain some of the largest marine plants in the world. They grow fast – up to 50 centimetres per day. They provide a home for many marine animals including fishes, crustaceans, snails, sea stars and sea urchins. In recent years Tasmania's giant kelp forests have declined dramatically. Once spanning the entire east coast, they are now reduced to tiny pockets, about 5% of that present 30 years ago.</p> <p>Photo: Karen Gowlett-Holmes (personal copyright, not CSIRO).</p>	© Karen Gowlett-Holmes	CoML	
5.	<h3>Life in blue water</h3> <p>Much of Australia's ocean territory exists over deep waters. The overlying water contains rich life at all levels. The uppermost layer is home to transparent jellyfish and fast cruising fish. The Dolphinfish or Mahi Mahi is a target of longline fisheries worldwide and often travels with sharks and whales.</p> <p>Photo: C. and M. Fallows</p>	© oceanwideimages.com (original licence granted to Museum Victoria (via Mark Norman, but extended once only use for stickers \$55 - see email 18/5/10 Meri Bell, Image Licensing Manager)	Hub stickers	



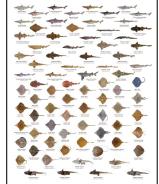
6.	<h2>Tiny travellers</h2> <p>The open ocean is the largest ecosystem on earth. Tiny marine plants (phytoplankton) use the sun's energy to grow and in turn are eaten by tiny animals – the zooplankton. These include young shrimp such as the one shown here that spend their early life stages rising every night to feed in surface waters under the cover of darkness. Plankton are the primary diet of many ocean travellers ranging from small fish to the largest animals on the planet, the Baleen whales.</p> <p>Photo: David Paul, dpimages</p>	© David Paul, dpimages via Mark Norman, MV	CoML		
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## Theme - New species discovered, age of discovery for marine

7.	<h3>Shrimp in sporting colours</h3> <p>These shrimp are among the many new species recently discovered in deep waters around Australia's coasts – these ones from around 400 metres deep off Western Australia. The function of the bright colours is unknown but may be used for mating signals not football matches. Few people are lucky enough to have a species named after them. Naming rights for the spotted shrimp third from the top were bought by three-time Olympian and former NBA basketball player Luc Longley. Luc dedicated the new name to his daughter Clare – described as <i>Lebbeus clarehanna</i> by PhD student at Museum Victoria, Anna McCallum. The auction raised \$3,500 for marine conservation.</p> <p>Photos: Karen Gowlett-Holmes, CSIRO (1,3 and 4) Greg Mellin © Australian Museum (2).</p>	© Karen Gowlett-Holmes, CSIRO (1,3 and 4th)  Greg Mellin © Australian Museum (3rd) - "for use in CERF Marine Biodiversity Hub Exhibition" Further application must be made for any other reproduction or use.... - see use agreement dated 19/4/10	Hub stickers (2 <sup>nd</sup> image from top )	
8.	<h3>Walking on your hands</h3> <p>Handfish use their handlike fins to walk along the seabed. This fish group only occurs in Australia. Up until a year ago, only four species were known. However scientists have recently identified a total of 14 species. All species are very rare, with one species only known from a single specimen collected by the French explorer Captain Nicolas Baudin in 1802 – it has never been seen again. This recently described species, the Pink Handfish, is only known from four individual animals.</p> <p>Photo: Karen Gowlett-Holmes (personal copyright, not CSIRO). See <a href="#">Science Image</a> for press release 21/5/2010</p>	© Karen Gowlett-Holmes	CoML Hub stickers	
9.	<h3>Discovering amazing creatures</h3> <p>Less than 5 percent of the oceans have been explored, and about half of the creatures that scientists encounter from the deep are new to science. Marine creatures are more diverse than land animals because only half of the major animal groups (phyla) made it on to land. Identifying each group requires a different taxonomic expert (often more than one). Taxonomists have named over 33,000 marine species from Australia, while 17,000 collected species remain to be named. Hundreds of thousands of species potentially await discovery.</p> <p>Photo: Karen Gowlett-Holmes, CSIRO.</p>	© Karen Gowlett-Holmes, CSIRO	CoML	



10.	<h2>New sharks and stingrays</h2> <p>Australia is a hotspot for the fishes that have cartilage instead of bones – the sharks, rays and chimeras. The collage shows the diversity of 80 new species described since 2007. This represents more than a quarter of Australia's sharks and rays, and about 7% of the world's fauna. These species are described in detail in the recently revised book 'Sharks and Rays of Australia' by Peter Last and John Stevens with the help of CSIRO colleagues and numerous international experts.</p> <p><i>Note from William White who compiled the poster: "reflects the number of new shark and ray species described since 2007 - does not include all of them - see email 30/6/10</i></p> <p>Source: CSIRO.</p>	© CSIRO	CoML		
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## Theme - Exploring the deep: hidden habitats from the sea

11. <h3>Mapping the deep</h3> <p>The world's oceans cover 71% of planet earth at an average depth of 3,800 metres. Most of the seafloor at these depths is poorly known. Multibeam scanning uses echoes from billions of sound pulses sent to the seafloor to map the contours in great detail. This scan shows the full majesty of Lord Howe Island, an extinct shield volcano, dating back 7 million years. Only the dark green area is above sea level. Three new extinct volcanoes – each the size of Mt Kosciusko – were recently found in this region.</p> <p>Source:</p> <p> © Commonwealth of Australia (Geoscience Australia) 2010.</p>	© GA		
12. <h3>Hidden worlds</h3> <p>It was not so long ago that the deep oceans were thought to be dark deserts containing no living organisms. Over the last 50 years deep-sea discoveries now show that whole ecosystems occur at depth and there may be as many species in the deep ocean as there are on dry land. These images were taken with drop and towed video systems at depths between 200 and 1,000 metres around Australia. Many deep-sea corals and other animals are extremely long lived.</p> <p>Photos: Bruce Barker and team, CSIRO.</p>	© CSIRO	CoML	
13. <h3>Fishing impacts</h3> <p>Coral reefs don't only occur in the tropics. These coral reefs grow on extinct volcanoes (or seamounts) at 1,000 metres depth off Tasmania. Many of these reefs were fished extensively for Orange Roughy (deep-sea perch). This sequence shows an undisturbed reef, a reef with a single pass of a fishing net, and a seamount that has been frequently fished. Many seamounts are now protected within the 226,458 km<sup>2</sup> Southeast Commonwealth Marine Protected Area Network, declared in 2007.</p> <p>Photos: Bruce Barker and team, CSIRO</p>	© CSIRO	CoML	



14.	<h3>A face full of teeth</h3> <p>Imagine living in the deep sea where it is permanently dark, cold and food is hard to find. For many animals at depth it may be weeks to months between meals. If you find something to eat, you have to hang on to it. This is why so many deep-sea fishes have lots of big teeth. This dragonfish even has teeth on its tongue! They would be terrifying animals if they weren't the size of a banana.</p> <p>Photo: Julian Finn, Museum Victoria.</p>	© Julian Finn, Museum Victoria.	CoML Hub stickers	
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## Theme - Cutting edge science

15.	<h3>The Marine Biodiversity Hub at work</h3> <p>To explore and research Australia's huge ocean territory requires a reliable ocean-going vessel. For more than 25 years the research vessel Southern Surveyor, a 61 metre ship built in 1972, has provided this support to Australian researchers. In 2012, it will be replaced with a new \$120 million state-of-the-art vessel, <i>The Investigator</i>, named after Matthew Flinders' ship on his first navigation of Australia over 200 years ago.</p> <p>Photo: CSIRO.</p>			
16.	<h3>Probing the depths</h3> <p>This specially designed aluminium sled bristles with digital and video cameras, laser beams, lights and acoustic beacons. It is flown with pinpoint accuracy over the seafloor, and up and down the sides of steep underwater cliffs kilometres below the surface. Improvements in remote sensing and image capture technology are greatly enhancing knowledge of Australia's marine biodiversity and habitats.</p> <p>Photo: Julian Finn, Museum Victoria.</p>	Julian Finn, Museum Victoria		
17.	<h3>Coral cores as history books</h3> <p>Corals are slow growing animal colonies. As they lay down their hard skeletons, they incorporate the chemistry of their surroundings. Thus the rings of hard corals can act as history books to past climates and environmental conditions. Here AIMS researcher Tim Cooper drills a core from an ancient massive Porites coral colony. X-rays of slices from such coral cores reveal annual bands similar to tree rings. These provide the basis for extracting a wealth of information stretching back several centuries – long before the advent of instrumental observations of the marine environment.</p> <p>Photo: Eric G. Matson © Australian Institute of Marine Science</p>	© Australian Institute of Marine Science - permission - "approved purpose of an exhibition of photos for use in a travelling exhibition highlighting marine biodiversity, particularly during the International Year of Biodiversity", per Steve Clarke, AIMS, 24/8/2010.		



18.	<h2>Sea changes</h2> <p>Changes are occurring in Australia's marine waters. Warm-water species are moving south along Australia's coasts and cooler southern species are threatened with invasions from the north. One such threat is the movement of the black sea urchin <i>Centrostephanus rodgersii</i> from warm waters such as New South Wales. This sea urchin eats kelps and other seaweeds, transforming kelp forests into boulder barrens. This will potentially impact on many marine species including commercially important abalone fisheries in southern Australia.</p> <p>Photo: Mark Norman, Museum Victoria.</p>	Mark Norman, Museum Victoria	CoML		
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19.	<h2>Last Panel</h2> <p>The estimated 250,000 marine species in Australia's oceans share these waters with industries that put food on our tables and petrol in our cars. Many Australians like to sail, fish, dive, swim and surf in the same seas. How can all these uses be accommodated while protecting our rich and unique biodiversity? Can we leave the oceans in a better condition for future generations?</p> <p>Australia leads the world in marine spatial planning and in November 2012 the government announced a comprehensive national network of marine protected areas – the Commonwealth Marine Reserve network. The network provides important protection for specific areas including the Perth Canyon, deep sea seamounts off Tasmania and the Coral Sea. In addition, the network includes representative areas from all around Australia. The government has committed to report on the condition of this network. This will provide an important regular update on the condition of Australia's marine environment, which can be used to compare changes in condition against the objectives for this network. It will also inform management of areas outside the Commonwealth Marine Reserve Network.</p> <p>Recent investments by the government in new marine infrastructure include a new research vessel, underwater robots, underwater vehicles that carry out independent missions, electronic tags that discover the movements of fishes, marine mammals and seabirds, and the data and analysis systems that will make this information available. All are part of this nation's plan to understand and sustainably manage our oceans. What will we find in the other 95 percent of our oceans?</p> <p>Marine Biodiversity Hub</p> <p>The NERP Marine Biodiversity Hub is a national leader providing biodiversity science and information to support decision making in the marine environment. We build national capacity through the collaboration of our partners and our network of collaborators in many states and territories. A main focus is to assist the Department of Sustainability, Environment, Water, Population and Communities in accessing timely and relevant information that can be used for the monitoring and wise management of Australia's marine resources.</p> <p>The Marine Biodiversity Hub is supported through funding from the Australian Government's National Environmental Research Program, administered by the Department of Sustainability, Environment, Water, Population and Communities.</p> <p><a href="http://www.nerpmarine.edu.au">www.nerpmarine.edu.au</a></p>		CoML	
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National Environmental  
Research Program

# MARINE BIODIVERSITY hub

Travelling exhibition of marine images – 2010 onwards

Contact: [annabel.ozimec@csiro.au](mailto:annabel.ozimec@csiro.au)

## Panels on display at Questacon

- Captions incorporated in panel





National Environmental  
Research Program

# MARINE BIODIVERSITY hub

Travelling exhibition of marine images – 2010 onwards

Contact: [annabel.ozimec@csiro.au](mailto:annabel.ozimec@csiro.au)

## Support materials

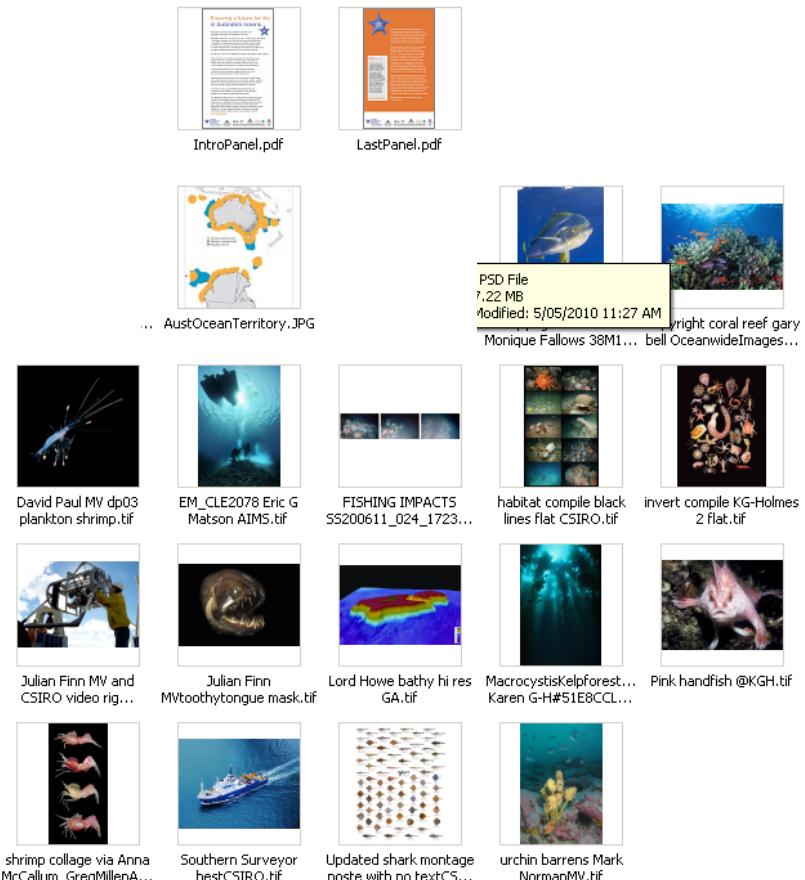
- Stickers -
- Flyer [download](#)
- Posters – [biodiversity in WA's deep sea](#) and [New Australian sharks and rays](#)
- Sample education kit

Stickers 70 mm x 45 mm



## Gallery of 19 images

(as detailed in previous pages)



Travelling exhibition of marine images – 2010 onwards

Contact: [annabel.ozimec@csiro.au](mailto:annabel.ozimec@csiro.au)

## Image sizes and mounting

Diasec process. Full colour polyester film at various sizes. Face mounted to 6mm acrylic, block out vinyl on 3mm MDF including 9mm MDF baton at top, with D ring hangers. (The MDF batons at back provide additional hanging strength.)



Weight: 2kg each

12 images - 420 mm x 694 mm (A2)

Remaining images (7) sizes -

420 mm x 575 mm

420mm x 592 mm

420 mm x 678 mm

386 mm x 594 mm

420 mm x 640 mm

458 mm x 594 mm

594mm x 252 mm

## Packaging - Crates

The 19 acrylic panels are stored in 2 crates (custom designed by Rebul Australia) which can be carried by 2 people.



Crate dimensions:

Crate # 1      81x46x53--40.5kgs

Crate #2      81x49x 56--38.5kgs



## Publicity from previous venues

- Hub website – exhibition page <http://www.nerpmarine.edu.au/news/exhibition-marine-biodiversity-images>

### Exhibition at Questacon

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### Ensuring a Future for Life in Australia's Oceans

From 21 May until 31 August 2010, an exhibition of photographs of images from *Marine Biodiversity Hub* partners line the ramp walls of Questacon.

The photos showcase Australia's rich seas and wildlife and related research. They show the beauty and fragility of Australia's marine biodiversity and illustrate the need for cutting edge science and management to protect this environment.

Eighty-six per cent of Australia's population lives within 50 km of the sea. An estimated 250 000 marine species share Australia's oceans with industries that put food on our tables and petrol in our cars and many Australians like to sail, fish, dive, swim and surf in the same seas. How can all these uses be accommodated while protecting our rich and unique biodiversity? What is known of the wildlife and habitats in Australia's ocean waters?

Head of Science at [Museum Victoria](#), , Mark Norman, is the curator of photo exhibition which is timely as the United Nations has declared 2010 as the [International Year of Biodiversity](#) .

*The Marine Biodiversity Hub is a collaborative partnership funded by the [Commonwealth Environment Research Facilities](#)  (CERF) programme, an Australian Government initiative supporting world class, public good research. Its partners include the [Tasmanian Aquaculture and Fisheries Institute](#) , [University of Tasmania](#) , [CSIRO Wealth from Oceans National Flagship](#) , [Geoscience Australia](#) , [Australian Institute of Marine Science](#) , and [Museum Victoria](#) .*

Learn more by visiting [www.marinehub.org](http://www.marinehub.org) .

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Got questions about Questacon? [Contact us](#).





Travelling exhibition of marine images – 2010 onwards

Contact: [annabel.ozimec@csiro.au](mailto:annabel.ozimec@csiro.au)

## National Science Week 2010



### EVENT DETAILS

#### Ensuring a future for life in Australia's oceans - Marine Biodiversity Hub

**When** 21 May 2010 9:00 AM - 31 Aug 2010 5:00 PM

**Where** Questacon  
Mall Road West, Parkes ACT

**What** Exhibition

**Who** Everyone

**Theme** Marine Science

**Website** <http://canberra.questacon.edu.au/exhibitions/marine.html>

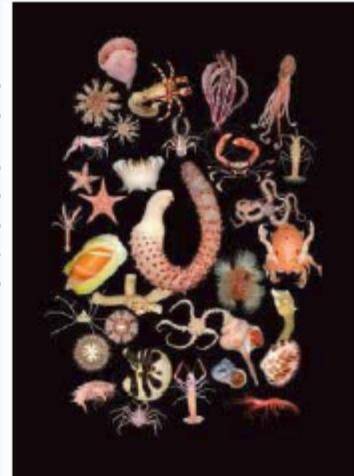
Exhibition of Images showcasing Australia's rich seas, wildlife and the research discovering new worlds.

Australia is a marine nation. Eighty six percent of our population lives within 50 kilometres of the sea. The estimated 250,000 marine species in Australia's oceans share these waters with industries that put food on our tables and petrol in our cars. Many Australians like to sail, fish, dive, swim and surf in the same seas. How can all these uses be accommodated while protecting our rich and unique biodiversity? The exhibition of Images is also timely as the United Nations has declared 2010 as the International Year of Biodiversity. The Curator is Mark Norman, Head of Science at Museum Victoria, on behalf of the Marine Biodiversity Hub. (The Marine Biodiversity Hub is a collaborative partnership funded by the Commonwealth Environment Research Facilities (CERF) programme, an Australian Government initiative supporting world class, public good research. Its partners include the Tasmanian Aquaculture and Fisheries Institute, University of Tasmania; CSIRO Wealth from Oceans National Flagship; Geoscience Australia; Australian Institute of Marine Science; and Museum Victoria.) More Info: <http://www.marinehub.org/index.php/site/home/>

Ramp exhibition - Images are displayed on the walls as visitors walk up the ramp to the different levels of Questacon. Entry to the ramp exhibition is included with admission.

**Contact** Annabel Ozimec  
[annabel.ozimec@csiro.au](mailto:annabel.ozimec@csiro.au)

03 6232 5462





Travelling exhibition of marine images – 2010 onwards

Contact: [annabel.ozimec@csiro.au](mailto:annabel.ozimec@csiro.au)

- [2010 International Year of Biodiversity](#)



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### marine biodiversity hub exhibition at questacon – ensuring a future for life in australia's oceans

**Starts:** 21st May, 2010 9:00 am

**Ends:** 31st August, 2010 5:00 pm

**Venue:** Questacon, Canberra

**Address:** King Edward Terrace (corner of Mall Road West), Parkes, ACT, Australia, 2600  
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#### description:

Come and see the Marine Biodiversity Hub's exhibition of images at Questacon in Canberra from 21 May to 31 August to celebrate the International Year of Biodiversity.

The exhibition contains images from Marine Biodiversity Hub partners (and a few more) and is curated by Mark Norman, Head of Science at Museum Victoria. Our aim is to reach out to the general public (especially school students) and raise their awareness of the beauty and fragility of Australia's marine biodiversity. We also raise the need for cutting edge science and management to protect this environment. The exhibition of photographs is scheduled to open on Friday 21 May (the day before International Day for Biological Diversity on the 22 May).

(The Marine Biodiversity Hub is a collaborative partnership funded by the Commonwealth Environment Research Facilities (CERF) programme, an Australian Government initiative supporting world class, public good research. Its partners include the Tasmanian Aquaculture and Fisheries Institute, University of Tasmania; CSIRO Wealth from Oceans National Flagship; Geoscience Australia; Australian Institute of Marine Science; and Museum Victoria.  
[www.marinehub.org](http://www.marinehub.org))

Event website:

<http://canberra.questacon.edu.au/exhibitions/marine.html>

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## Exhibition at CSIRO Discovery Centre

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Event: Exhibition

### Ensuring a Future for Life in Australia's Oceans

The aim of this photo exhibition is to raise awareness of the beauty and fragility of Australia's marine biodiversity.

**Ensuring a Future for Life in Australia's Oceans**

**Start:** 22 February 2011 9 am  
**End:** 27 March 2011 3 pm

**Location**

**CSIRO Discovery**  
Clunies Ross Street  
Acton ACT 2601  
Australia

Discovering amazing creatures  
Image: Karen Gowlett-Holmes, CSIRO

**General Information**

This photo exhibition showcases Australia's rich seas, wildlife and related research. It shows the beauty and fragility of Australia's marine biodiversity, and illustrates the need for cutting-edge science and management to protect this environment. It has only been in the last few decades that researchers have begun to find out what is known of the wildlife and habitats in Australia's ocean waters. Through new technologies, exploration of hidden deep sea worlds and specialist research teams, new marine species and habitats are constantly being discovered. The curator of the exhibition is Mr Mark Norman, Head of Science at Museum Victoria, on behalf of the [Marine Biodiversity Hub](#) ([external link](#)). This Hub is a collaborative partnership funded by the Commonwealth Environment Research Facilities (CERF) program, an Australian Government initiative, and its partners include:

- [Tasmanian Aquaculture and Fisheries Institute](#) ([external link](#))
- [University of Tasmania](#) ([external link](#))
- [CSIRO's Wealth from Oceans Flagship](#)
- [Geoscience Australia](#) ([external link](#))
- [Australian Institute of Marine Science](#) ([external link](#))
- [Museum Victoria](#) ([external link](#))

Learn more about [Understanding Oceans](#).

**Who Should Attend**

- general public
- marine science enthusiasts
- artists and photographers
- art and science students

**Cost**

Free entry

**Registration Details**

No registration required

**Contact Information**

**Mr Guy Micklethwait**  
Manager of Public Programs  
Discovery Centre  
Phone: 61 2 6246 4620  
Fax: 61 2 6246 4600  
Email: [Guy.Micklethwait@csiro.au](mailto:Guy.Micklethwait@csiro.au)

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Travelling exhibition of marine images – 2010 onwards

Contact: [annabel.ozimec@csiro.au](mailto:annabel.ozimec@csiro.au)

## Exhibition at Scienceworks, Museum Victoria

What's On Display Page: Scienceworks

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### Ensuring a future for life in Australia's oceans

Past Event: 18 February 2012 to 15 April 2012

Explore the beauty and fragility of Australia's marine biodiversity.

Curated by Dr Mark Norman, Head of Science at Museum Victoria, discover the beauty and fragility of Australia's marine biodiversity.

Through 19 stunning photographs, explore beautiful Australian coral reefs, giant kelp forests, recently discovered sharks and stingrays, the hidden habitats from the sea and more.

The Marine Biodiversity Hub is a collaborative partnership supported through funding from the Australian Government's National Environmental Research Program (and previously through the Commonwealth Environment Research Facility).

Sponsored by:  
[Marine Biodiversity Hub](#)



Sea changes  
Source: Museum Victoria  
Mark Norman



## Introductory panel (1)

### Ensuring a future for life in Australia's oceans



Australia is a marine nation. Eighty six percent of our population lives within 50 kilometres of the sea.

Australia's sea territory is enormous, over 11 million square kilometres - half again as large as our land territories (excluding Antarctica). The seafloor of these waters range from shallow coastal fringes to deep-sea mountains, plains and canyons. Australia's tallest mountain, Mt Kosciusko, would stack several times over with room to spare in deep-sea canyons such as the Tasman Fracture.

But what is known of the wildlife and habitats in Australia's ocean waters?

It has only been in the last few decades that researchers have begun to find out. Through new technologies, exploration of hidden deep-sea worlds and specialist research teams, new marine species and habitats are constantly being discovered.

Only about five percent of our ocean has been explored in detail with some scientists suggesting that only one in five marine species have so far been discovered.

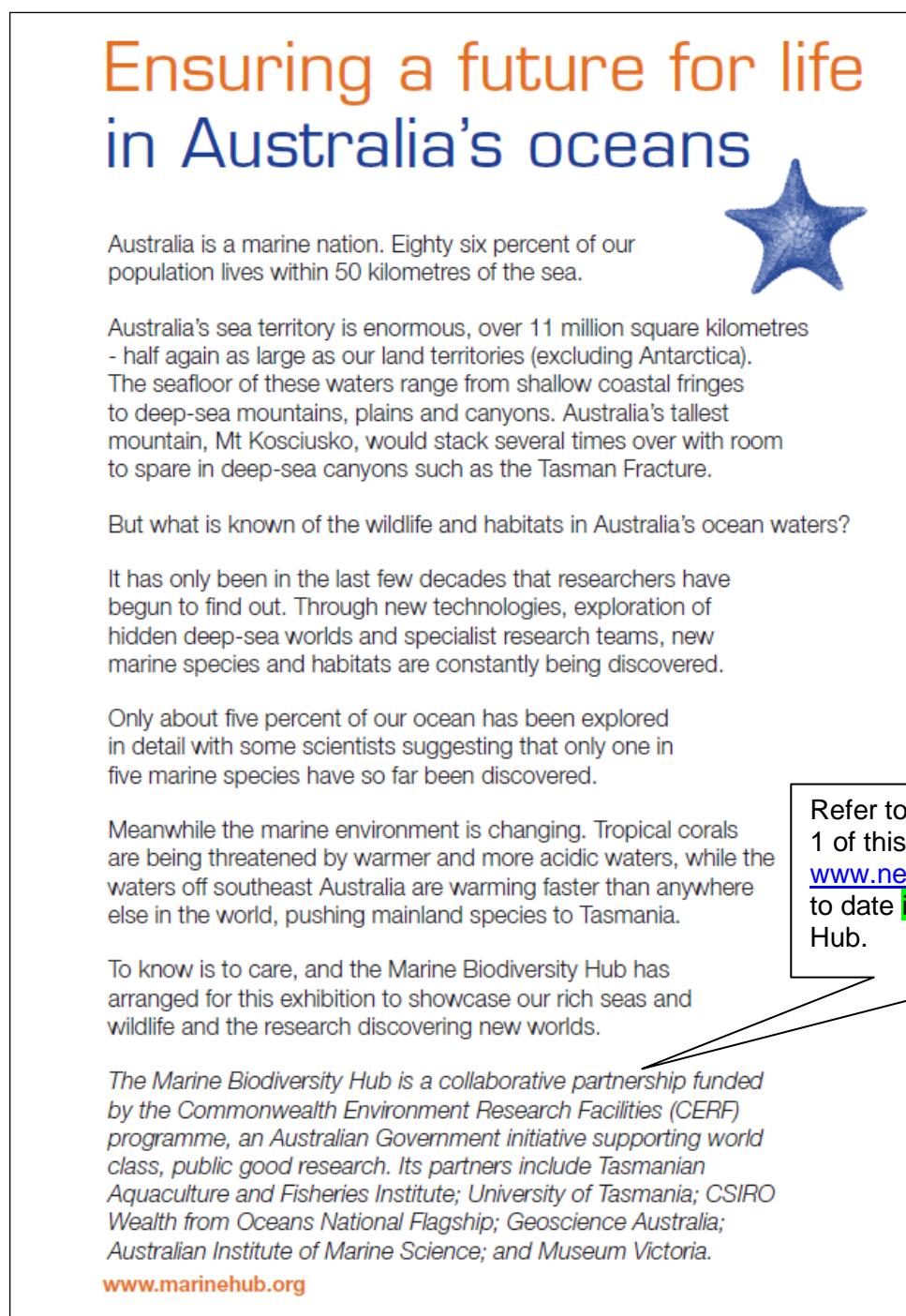
Meanwhile the marine environment is changing. Tropical corals are being threatened by warmer and more acidic waters, while the waters off southeast Australia are warming faster than anywhere else in the world, pushing mainland species to Tasmania.

To know is to care, and the Marine Biodiversity Hub has arranged for this exhibition to showcase our rich seas and wildlife and the research discovering new worlds.

*The Marine Biodiversity Hub is a collaborative partnership funded by the Commonwealth Environment Research Facilities (CERF) programme, an Australian Government initiative supporting world class, public good research. Its partners include Tasmanian Aquaculture and Fisheries Institute; University of Tasmania; CSIRO Wealth from Oceans National Flagship; Geoscience Australia; Australian Institute of Marine Science; and Museum Victoria.*

[www.marinehub.org](http://www.marinehub.org)

Refer to panel 1 description on page 1 of this document (and website [www.nerpmarine.edu.au](http://www.nerpmarine.edu.au)) for most up to date information about the Marine Hub.





## Last panel (19)



The estimated 250,000 marine species in Australia's oceans share these waters with industries that put food on our tables and petrol in our cars. Many Australians like to sail, fish, dive, swim and surf in the same seas. How can all these uses be accommodated while protecting our rich and unique biodiversity?

Australia leads the world in marine bioregional planning and will have a comprehensive national network of marine protected areas by 2012. The aim is to find the mix of wildlife protection, recreation and economic activity that can be sustained over the long-term with the aim to leave the oceans in a better condition for future generations. Given the major gaps in our understanding, this is an ambitious undertaking. Scientists are working with the Australian government to provide the information and tools to help achieve this goal.

Recent investments by the government in new marine infrastructure include a new research vessel, underwater robots, underwater vehicles that carry out independent missions, electronic tags that discover the movements of fishes, marine mammals and seabirds, and the data and analysis systems that will make this information available. All are part of this nation's plan to understand and sustainably manage our oceans.

What will we find in the other 95 percent of our oceans?

### MARINE BIODIVERSITY HUB

The Marine Biodiversity Hub is developing knowledge and techniques for predicting the distribution of marine biodiversity in Australia's oceans, and novel options for its management.

This capability is crucial to conserving and managing Australia's marine biodiversity and will complement Australia's National Representative System of Marine Protected Areas (NRSMPA) due to be in place by 2012.

Together, the NRSMPA and off-reserve management provide the best option for long-term protection and sustainable use of marine biodiversity in light of competing demands on the marine environment.

[www.marinehub.org](http://www.marinehub.org)