

## **An Interview with Howard and Michele Hall**

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### *1. How long were you in the Coral Triangle region filming Under the Sea 3D?*

We did three expeditions to the Coral Triangle – two expeditions to Papua New Guinea of a month long each, and a final six weeks in southern Indonesia around Komodo Island.

We also spent time filming in Cape Catastrophe in South Australia and off Cairns in the Great Barrier Reef.

### *2. What were your impressions of the Coral Triangle?*

It's well-documented that the Coral Triangle has the highest marine biodiversity on the planet, and this is really very evident when diving in the Coral Triangle. We came across many different corals that we'd never seen before, and an absolutely huge number of species – very unusual species and strains that have evolved into bizarre creatures, not only on the reefs but also in the muck environments and mangrove systems where the bottom is very soft and covered with leaves and twigs – we saw some very weird animals there.

The importance of mangroves becomes very apparent. Mangroves capture the silt and sedimentation and keep it from getting on to the reefs. Mangroves are critical to the health of reefs for this reason and their loss through coastal development is one of the reasons we're losing coral reefs in many parts of the world.

We were filming in more isolated parts of the Coral Triangle and specifically avoided areas of high development and so the reefs we saw were very healthy with an absolutely amazing array of life. But in more populated areas where mangroves have been cut down to build harbours or other developments, the water quality is not so good and you'll often find dead reefs.

### *3. Did you have a favourite site or species in the Coral Triangle?*

One of our favourite species was the sea snakes we saw in the Banda Sea. These were very big sea snakes, around five feet long and amazing creatures to watch. We also saw some remarkable garden eels.

You often see garden eels standing about two and a half feet on the bottom when diving in tropical waters but what was remarkable about these was their size. They were gigantic, standing about seven feet high.

If you'd told me before we went into the water that the garden eels were seven feet high, I would have thought you were exaggerating. We believed it only when we saw it, and we got some great shots of that.

#### *4. Did you see any indications of climate change?*

It's very difficult to say. If you're familiar with the shifting baselines concept ([link to www.shiftingbaselines.org](http://www.shiftingbaselines.org)), then you'll understand that what to us looks to be a wonderful environment might in fact still be in a much lesser state than it once was.

We shot a lot of footage at a place called Crystal Reef north of Komodo Island in Indonesia. This was absolutely gorgeous, one of the most beautiful sites we visited, but our guide said it breaks his heart to dive there. He said that at one time you'd see seven species of sharks in a single dive at that location but these days you don't see any.

Marine environments are degrading all over the planet through declining water quality, overfishing and climate change, and it's sad to think how different these environments once were.

But we also saw some encouraging signs of how the marine environment can bounce back. At a place called Calypso Reef near Milne Bay in Papua New Guinea, which had been hit badly by a dramatic bleaching episode during the 1998 El Nino event, we saw spectacular corals and complete coral cover where a few years ago the reef had been completely bleached.

The reef was able to bounce back because it is isolated and doesn't suffer from the same level of overfishing, siltation and loss of the important grazing fish that's has been seen on other reefs. When all these other pressures mount up it makes it much harder for a reef to come back after a bleaching event.

#### *5. NOAA has issued a coral bleaching warning for parts of the Coral Triangle (south of New Britain). Do you think coral bleaching poses a significant threat to the Coral Triangle?*

It's important to remember that coral bleaching can also be a natural occurrence, and it has been happening for many years in some parts of the world as a result of natural fluctuations in temperature. Some algae that cause the colour in coral reefs are more efficient and resistant to changes in water temperature than others.

But now we are seeing more bleaching events and corals being more stressed due to dramatic temperature increases. When coral bleaches and doesn't cool quickly, eventually it dies. When bleaching occurs in concert with other pressures, such as overfishing, then the problem gets worse and the coral doesn't bounce back as quickly.

For example, on coral reefs in the Caribbean we've seen the overfishing of sharks. Sharks feed on medium sized predators, such as groupers or barracuda, which themselves feed on the grazers like parrot fish or surgeon fish, which keep the algae on the reef in check. When you take the sharks out of the system, you get a proliferation of medium predators, and as a result you get less of the grazers as these are being eaten by the groupers or

barracudas. The result is much more algae on the reef, which smothers the coral and can cause it to die or can make it much less resilient to bleaching episodes.

*6. What do you think are some of the other threats to the Coral Triangle?*

Overfishing is number one on the list. When we were diving in Papua New Guinea and Indonesia we noticed a lack of big fish and sharks. In the fish markets there you see very few big fish but lots of tiny fish. Diving in Papua New Guinea is spectacular for the small animals but there are no big fish. In the Great Barrier Reef in Australia however, which has received much more protection, you see much more large fish.

*7. Did you have much interaction with local communities?*

We did get to interact with the local communities and in Papua New Guinea for example we had to seek their permission to dive the reefs. They would come out to our boat in their dugout canoes and bring us produce like fruit. At times it was difficult to surface near our boat after diving because of all the dugouts.

*8. How important is the health of the marine environment for these communities?*

Not sure. We saw lots of small boats with handlines catching fish, but there was no evidence of the big commercial fisheries in this part of the world.

*9. Can you describe WWF's role in the film?*

WWF was very helpful with the logistics and helping us get permits to film in the area, and was very helpful in checking the accuracy of our information, providing guidance, input on climate change, ocean acidification and other information. WWF also helped us to understand how important it was to single out the Coral Triangle as a region, so that people can begin to learn about the Coral Triangle. Because of this we mention the name Coral Triangle many times throughout the film.

*10. What were some of the biggest challenges filming in the area?*

There are many challenges when working in 3D IMAX, mainly logistical. We were carrying 8000 pounds of equipment, including 1000 pounds of film and an IMAX camera that weighs 1300 pounds. Transporting this equipment on charter planes throughout the region, landing on gravel fields in remote parts of Papua New Guinea was a significant challenge, and this kind of equipment made it even harder to work with animals with the unpredictable nature of animal behaviour.

But I love the IMAX format. Not just anyone can do it, otherwise everyone would be using it. I am very proud of my team and the way they were able to use this impractical camera equipment.

All up we were required to get 62 different permits throughout the course of our filming so you can see the challenge here.

*11. Are you optimistic about the future of marine environments in the Coral Triangle?*

Because the Coral Triangle naturally experiences huge shifts in water temperature it is more resilient against some of the problems facing many other parts of the world and this gives me hope for the region.

The global trend towards environmentalism is also very encouraging and gives me optimism for the Coral Triangle. It seems like global attitudes are changing, there are encouraging signs that people are understanding climate change and political parties with a better grasp on these things are succeeding around the world, such as here in the US. Things are changing for the better.

*IMAX Under the Sea 3D featuring the Coral Triangle's remarkable marine life premieres internationally on February 13, and in Australia (Sydney and Melbourne) in mid-March 2009.*

*For more information:*

[www.panda.org/coraltriangle](http://www.panda.org/coraltriangle)

[www.imax.com/underthesea](http://www.imax.com/underthesea)