



PRESS RELEASE 26/10/12

CATLIN SEAVIEW SURVEY DISCOVERS HEALTHY DEEP REEFS BENEATH DECIMATED AREAS OF THE GREAT BARRIER REEF

Early expedition observations from the unexplored deep reef casts new
light on the health of the Great Barrier Reef

The Catlin Seaview Survey announced today that its deep-water exploration of the Great Barrier Reef and the Coral Sea, to depths well beyond the reach of scuba divers, has discovered healthy coral habitats thriving below 30 metres. These healthy deep reefs are located directly under shallow reefs degraded by storms and other stresses including coral bleaching and invasive crown-of-thorns starfish plagues.

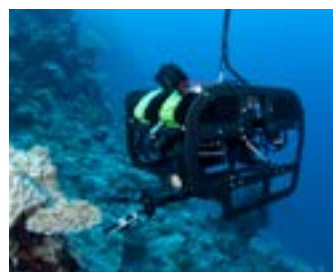
The expedition, is revealing new insights into the state of the iconic Great Barrier Reef, especially the deep reef that is almost totally unexplored by scientists. The Catlin Seaview Survey is sponsored by global insurance company Catlin, which underwrites coverage for property damage and other types of risks.



1. Shallow Reef damaged by storms



2. The Deep Reef: ROV takes samples



3. Deep Reef corals 'plated in a hunt for light

High Resolution photos can be downloaded from <http://www.zenfolio.com/catlinseaviewsurvey/p690908827>

Speaking from the research boat where he is leading the Deep Reef Survey, Dr Pim Bongaerts, of the University of Queensland's Global Change Institute, said, "The Holmes and Flinders Reefs in the Coral Sea are renowned for having been badly damaged. Yet we have found their deep reef zone is hardly disturbed at all. In fact the

most striking thing is the abundance of coral on the deep reef. What has blown me away is to see that even 70-80 metres down, there are significant coral populations.”

Professor Ove Hoegh-Guldberg, Chief Scientist for the Catlin Seaview Survey, said that a recent report from The Australian Institute of Marine Science (AIMS) showing that the Great Barrier Reef has lost half its coral cover in the last 27 years was a study of the situation in the shallow reef. “Our work in the deep reef is already casting a new light on our understanding. Up until now our knowledge was limited to the shallow reefs accessible by scuba diving. In reality, that provided us with an incomplete picture. Now, using ROVs (Remote Operated Vehicles), we are able to get below 30 metres and down to 100 metres, revealing a wholly different picture which now includes the deep reef environment,” Ove commented.

The Deep Reef Survey team has completed four of its ten planned surveys at areas along the lengths of the 2,300 kilometre reef system and its outlying atolls. It has already produced five specimens for further analysis, which may prove to be new species, and it expects to collect many more.

Dr. Carden C. Wallace, a world expert on corals at the Museum of Tropical Queensland, said she is struck by what the Catlin Seaview Survey is finding. “Up to now we’ve had only a very small number of specimens from deep reefs, mostly dredged samples, totalling about 20. Yet already, the Catlin Seaview Survey has collected more than 1,000 deep coral specimens (below 40 m) during these early stages of the Catlin Seaview Survey – with collections still ongoing. It is not only that they are finding abundant communities at depth, but some of these turn out to be quite diverse. Using the ROV vehicles to film and collect samples at this scale is simply unprecedented in Australian waters.

The discovery of wide areas of healthy deep reef raises the possibility that they could provide a refuge for corals that are under stress in the shallow reef.

Dr Pim Bongaerts said, “This mesophotic layer, just beneath shallow reefs, could provide coral recruits for the upper levels of the reef, providing a potential for them to help in the recovery of areas heavily damaged by climate change-related impacts. At the moment we know little about the extent of larval movements between the shallow and deep reef, but we are seeing species that exist in both zones.”

He continued, “Deep reefs are unique eco systems, that have been hidden away and unexplored, yet they are very much part of Australia’s natural heritage There are clear differences we’re observing. Corals are much flatter, more plate-like than the branching and domed shapes seen nearer the surface. This is the corals responding to the

reduced light conditions and spreading out to maximize their exposure to light. So far below the surface, the light is blue because all other parts of the spectrum have been filtered out. It is a monochrome world until you turn on strong lights to reveal amazing, beautiful, fantastic colours,”

Dr. Bongaerts concluded. The Catlin Seaview Survey, which launched last month, has embarked on a mission to create a baseline study of both shallow and deep reefs around the world. Its shallow reef survey is using a unique 360-degree camera system to document wide areas of the reef and ROV vehicles to record the deep reef. Further experiments and long-term monitoring of deep reefs will also be undertaken. Its baseline study will provide a global record of reef systems as a reference point for future studies and monitoring of changes in coral habitats that are imperiled by climate change.

Dr Pim Bongaerts added: “It is surprising in this day and age, that below some of the most well known reefs which are so popular with divers, there is an almost entirely unexplored world and as a result an enormous amount of science to be done.”

Anyone can get a flavour of the expedition experience by taking a user-controlled ‘virtual dive’ onto the reef on the expedition’s website www.catlinseaviewsurvey.com and via the Street View feature of Google Maps. The virtual dive allows people to use their own keyboard controls explore the reef for themselves.

NOTES TO EDITORS

INTERVIEWS PHOTOS AND VIDEO

Interviews with Catlin Seaview Survey spokespeople can be arranged. All media photos to download are housed at <http://www.zenfolio.com/catlinseaviewsurvey/p690908827>

Broadcasters: Broadcast quality video is available to download – please speak to our media team for details
There is video of the deep reef, Robot Vehicle and interview clips with scientist Dr. Pim Bongaerts

CATLIN SEAVIEW SURVEY EXPEDITION FACTS

The first Catlin Seaview Survey expedition on the Great Barrier Reef set off on 16th September 2012. The survey on the Great Barrier Reef and the Coral Sea runs until the end of December and will visit 20 separate coral reefs along the 2,300km reef on an unprecedented scale and depth range – including sections of the reef that have never previously been seen or studied. It will then continue on to selected global locations in 2013 including Hawaii, the Philippines and Bermuda.

SURVEY SCIENCE

- **Shallow Reef Survey:** Using state-of-the-art digital technology to capture approximately 50,000 360-degree panoramic images of the reef, the visual imagery will be linked to create a virtual dive experience. Each image will be geo-located, with automated technologies for rapidly assessing the amount of coral cover and other life forms from locations at 20 separate coral reefs along the entire length of the Great Barrier Reef. This will provide a broad scale baseline for understanding change on coral reefs.
- **Deep Reef Survey:** Using diving robots and other innovative instrument packages, the Catlin Seaview Survey Team will begin to explore deep water reef systems that are very rarely visited by humans, yet may hold some of the secrets of whether or not coral reefs could survive rapid climate change. Using a combination of HD cameras, deep-diving robots and survey equipment, the deep-water component will provide a comprehensive study of the health composition and biodiversity of the deep-water reefs on the Great Barrier Reef. It will also experimentally assess their susceptibility to increased temperatures and ocean acidification, which are byproducts of a changing climate. It's entirely probable new species will be discovered in these deeper waters.

ABOUT CATLIN

Catlin Group Limited is a global specialty property/casualty insurer and reinsurer, writing more than 30 classes of business. Catlin operates worldwide through six underwriting hubs: London/UK, Bermuda, the United States, Asia Pacific, Europe, and Canada. The Catlin Seaview Survey is the fourth scientific expedition it has sponsored following three Catlin Arctic Surveys investigating environmental changes in the Arctic (2009-2011). Catlin believes that insurers must take a leading role in improving our understanding of potential changes to our environment, changes that could affect how risks are managed in the future. Catlin's contribution is to sponsor independent, impartial research that is freely distributed to the world's scientific community.

ABOUT GLOBAL CHANGE INSTITUTE

The Global Change Institute at The University of Queensland, Australia, in collaboration with private and public sector partners, is an independent source of high-impact, game-changing science. The Global Change Institute seeks to advance scientific discovery and identify solutions for meeting the challenges presented by climate change, population change and technological innovation. The Global Change Institute is the science partner in the Catlin Seaview Survey.

EXPEDITION ENGAGEMENT

Over 1.6 million people are already following the Catlin Seaview Survey on Google+

The Catlin Seaview Survey website: <http://www.catlinseaviewsurvey.com/>

Google Street View Gallery: maps.google.com/ocean

A live program of content will be available for people to follow the expedition – including Google Hangouts and videos. See plus.google.com/+catlinseaviewsurvey for more information.

MEDIA ENQUIRIES

UK/EUROPE

Jackie Pedersen

jackie@macraecommunication.com

+44 (0)798 076 7710

Rod Macrae

rod@macraecommunication.com

+44 (0)781 402 9819 or

+44 (0)1491 613 715

US

Robert McEwen

bob@zingusa.com

+1 212-633-6301 or

816-916-5238

Kelly Taylor

kellytaylor@zingusa.com

+1 310-664-9464 or

310-500-9066

AUSTRALIA/ASIA

Meabh Duffy

Meabh@zing.net.au

+61 (0)488 776 342

Anna Macintosh

anna@zing.net.au

+61 (0)411 527 756

Ivana Bogut

ivana@zing.net.au

+61 (0)478 072 377