ScienceAlert
Australia & New Zealand

Diving public diagnose coral diseases

Thursday, 15 January 2009

ARC Centre of Excellence for Coral Reef Studies

The Great Barrier reef is at risk of several coral health problems, including coral bleaching caused by high temperatures. Image: iStockphoto

Tourists, holidaymakers, divers and tour operators have been invited to become 'citizen scientists' and help with a major health check-up for Australia's Great Barrier Reef.

Coral diseases have spread along the reef in recent years, and researchers suspect they may be triggered by human disturbances and climate changes. Coral diseases are implicated as major contributors to the devastation that has destroyed up to three-quarters of the corals in some regions of the Caribbean.

Coral health has been a focus of a major investigation by coral scientists from the nation's leading research institutions over the past seven years, with upsurges in white syndrome and black band reported.

Now the ARC Centre of Excellence for Coral Reef Studies (CoECRS) and the Coral Reef Targeted Research & Capacity Building for Management (CRTR) Program have combined to produce a guide to coral health and diseases for use both by scientists and by lay people with an interest in the reef and its future.

The advice is in the form of a ring-bound 24-page waterproof guide to coral diseases and their symptoms, which is designed for easy reference under water. It is accompanied by a 120-page booklet on how to assess, monitor and manage coral disease.

The cards provide a simple diagnostic 'tree' that enables the viewer to decide what sort of health problem the coral has – tissue loss, discolouration or growth anomalies - and then refers to a pictorial guide showing the commonest causes of these conditions.

"Extensive underwater surveys by researchers have given us a fair idea where the main outbreaks of disease are along 1500 kms of the GBR – but a handful of scientists can only cover so much ground," explains CoECRS coral disease authority Dr Bette Willis.

"Most people who dive the Reef care deeply about what happens to the corals, and we're hoping that our 'citizen scientists' will help supplement our knowledge of what is going on by reporting any outbreaks which they happen to see – as there are tens of thousands of visitors who, potentially, can cover hundreds of different sites."

Corals diseases appear to coincide with years when sea temperatures are high. In 2002 – the worst year for coral bleaching on record – there was also a 20-fold upsurge in coral disease reported, mainly on reefs with high coral densities. This may be due to the attacking organisms becoming more virulent in warm conditions combined with the coral host becoming more susceptible to disease, much like we become more susceptible to the flu when we're stressed, Dr Willis says.

Early signs suggest that 2008/09 may also be a year of high sea temperatures, creating the risk of a fresh upsurge in diseases, says Roger Beeden, Manager, Impacts, Climate Change Group, Great Barrier Reef Marine Park Authority.

"We want to be especially on the lookout this year, in case this happens again – so we can detect as many outbreaks as possible in a timely way," he says. "The public, especially those with some reef diving experience can be a great help to us in understanding what is going on along the full length of the GBR."

The waterproof Coral Disease Cards are available at a cost of $24.20 a set from the University of Queensland online shop, and can be ordered online.

Says CRTR Program executive officer Melanie King: "People can download a sample from the website prior to purchasing – but the waterproof handbook is designed to refer to underwater," Ms King explains.

"We will be most appreciative of well-informed reports from the public of coral disease outbreaks, based on the information provided in the guide."

Members of the public wishing to log a report of a possible coral disease sighting can do so in the interim by sending a report to roger.beeden@jcu.edu.au . Alternatively, disease reports can be logged online at GBRMPA's Bleachwatch site.