

Fascinating glimpse into marine biology

A full house of Probus Club members sat in rapt attention as, earlier this week, the Club's April guest speaker, Marine Biologist, Ryan Johnson, delivered fascinating insights into the research he and his colleagues at Oceans Research are conducting.

In his talk titled, "Inside Marine Biology," Johnson described how his interest and passion for the ocean had grown from his upbringing in New Zealand through to his academic studies at the University of Pretoria in South Africa and his groundbreaking research into shark behaviour and physiology.

Supported by an array of stunning photographic slides, Johnson revealed why he is one of the world's most featured marine scientists in television documentaries today. In a warm and relaxed style, he led the audience through an overview of how the research studies on sharks had been developed to add to what is known and understood about one of the world's oldest surviving marine creatures - sharks. "Sharks are older than the dinosaurs... they



Marine biologist Ryan Johnson addressed the Probus Club meeting earlier this week. He was accompanied by Oceans Group Director, Development, Katy Cummings. Ryan is lead scientist at Oceans Research. Seen here with Johnson are (left to right) Estelle McIraih (Guest Speaker Officer), Ryan Johnson, Eddie Goudge (President), Katy Cummings and Rob Phillips (Vice-President and Secretary).

peratives, cultural habits in some countries and old fashioned greed among the perpetrators.

locations around the world; the native shark callers of Papua New Guinea who use vocal calls to attract sharks; bull shark habitats in

an excellent marine research environment that environmentalists and marine biologist alike are keenly watching de-

veloped, he said.

Johnson showed how methods and techniques for observing and recording sharks in their own habitat had been improved and how, in addition to the knowledge gained through man's basic experience of catching sharks and observing them from boats or land, these new systems have greatly advanced our knowledge of sharks and other sea life.

Some of the more advanced methods of research being used include acoustic telemetry in which observations through hundreds of hours of tracking reveal shark behaviour, habits and physiological responses to changes in environment.

Detailed photographic identification of individual sharks is also a specific and increasingly useful system for the micro evaluation of individual animals.

Research breakthroughs

But it was the advent and adoption of a satellite telemetry system several years ago with the support of a US NGO (non-government organisation), and the South African government that yielded a key research breakthrough. In a landmark research programme, a female great white shark nicknamed Nicole was tagged and over several months was tracked via satellite on the longest recorded animal migration.

Nicole journeyed from Mossel Bay across the Indian Ocean to Australia's west coast and returned six months later. The knowledge gained in marine research such as this, along with other emerging ocean research, started alarm bells ringing around the world as mounting evidence began to confirm that there are species in the oceans which are severely vulnerable to certain fishing practices.

This includes several species of sharks which are starting to show signs of over exploitation.

In response to these findings, countries such as Australia, Japan and several others moved quickly to list great white sharks on the CITES (Convention on International Trade in Endangered Species) register. This applies a No Trade prohibition on all and any products comprising any part of the endangered animals.

Notwithstanding the attempts by many organisations and governments to enforce protective measures where endangered species are identified, some damaging practices remain, driven by economic im-

To illustrate the extent and tragedy of what is occurring on the world's oceans today with regard to sharks, Johnson drew an analogy between the slaughter of rhinos for their horns to fill the demand for mythical tonics in certain cultures and the barbaric practice of finning sharks. Shark finning, he explained, is the practice of slicing off the pectoral and dorsal fins of sharks and then dumping the mutilated animals back into the sea to die a slow and lingering death.

As with rhino horn, the demand for sharks' fins is driven by an ancient cultural style that exists mainly in China, in which shark fin soup is considered a great culinary delicacy.

Johnson explained how it originated from old Chinese tradition as a dish consumed only by royalty or by the very powerful and wealthy. In China's rising economic society of today, the dish has become a cultural imperative as upwardly mobile Chinese seek to associate themselves with the status symbol the soup represents.

To feed the huge demand, last year alone, over one hundred million sharks were slaughtered. At the supply end, greed and opportunism conspire to make the extinction of sharks an almost unstoppable phenomenon. The rate of harvesting is now exceeding the rate of reproduction in many of the target shark species. Until that trend is arrested, shark populations will continue to decline.

As a footnote Johnson observed that sharks fin in itself has virtually no culinary values. It is a tough, cartilaginous material with little or no nutritional use. Evidence shows that it is the soup stock which is usually basically chicken stock, which is flavoured. "Researchers have shown that sharks have made it through multiple mass extinctions on our planet," he said, "now many species are going to go the way of the dinosaur - far a bowl of soup."

TV documentaries

Raising the tone of his talk after the grim revelations of out of control abuses in the marine world, Ryan raised chuckles as he shared a few light hearted anecdotes of his experiences as the lead personality in the many TV documentaries for National Geographic and other channels in which his research work has been featured. These included cage diving; the shark congregations in pits of Mauritius and other

highly successful locally produced documentary on the night hunting habits of great white sharks in Mossel Bay and a variety of other science and entertainment productions.

Mossel Bay marine biology

In conclusion, Ryan reflected on the Mossel Bay marine environment which he said was unique and represented an excellent locale in which to conduct world class marine research as had already been demonstrated on more than one project.

"After all," he said, "that is why Oceans Research is based here and why so many PhD-students are working on their doctorates in this area."

He went on to say that it is because of the unique qualities that combine in the Bay's shallow and sheltered environment to cre-

ate an excellent marine research environment that environmentalists and marine biologist alike are keenly watching de-

velopment plan now nearing completion and the proposed fish farming project, to see what environmental impacts there may be.

"These are all important economic and social projects," Johnson said, "but it would be appropriate if there were full monitoring marine research programmes in place to run parallel with the projects to closely observe what impacts may arise instead of retroactively having to deal with any undesirable consequences should they arise."

Ryan Johnson's intimate, informative and entertaining presentation received long and warm applause from an audience who felt privileged to have listened to the unassuming, but no doubt highly regarded marine biologist.