

# Tough as old boots?

The leatherback has been around for 65 million years but now is threatened by a competitor more voracious and selfish than any other

Text & photography by Michael Aw



**J**amursba Medi Beach, West Papua. By the time we had landed on the beach, 160km east of Sorong, night had fallen over the Bird's Head Peninsula. We moved into the fringing vegetation to find a spot to wait. A breeze stirred the treetops while around us insects thrummed and chirruped.

We were waiting for the chance to see one of nature's greatest survivors: the leatherback turtle. The largest of the marine turtles, it can reach a length of 1.7m and weigh 700kg. Unlike other sea turtles which have rigid carapaces, the leatherback is topped with dark soft leather, often spotted, and this along with their long front flippers

distinguishes them from other species.

The leatherback (or *Dermochelys coriacea* as the scientists have it) has been landing on beaches such as this one for more than 65 million years, making it the longest surviving reptile species. The question is, in the face of threats to both the animal and its environment, how much longer can it continue to do so? Today there are less than 25,000 worldwide and they are thought to be close to extinction in the Pacific.

Finally, the first dark shape rose out of the foam. There was a gentle hiss as a breath was inhaled, then the form lurched forward steadily up the sand. Selecting a site above the high

tide mark, next to a screen of low lying scrub, the female heaved a soft sigh of relief before beginning to dig.

For a maximum number of eggs to hatch, the condition of the sand must be just right. As the female digs, first using her left rear flipper and then the right, she tests its texture and temperature just as we might dip our foot to test the bathwater.

We sat and watched as the female in front of us excavated a hole about one metre deep. Once her flippers were hanging vertically into the hole, she was ready to begin laying. An average nest receives about 100 eggs, but some individual clutches may contain as many

as 190. When she was done, she pushed sand back into the pit and packed down the opening.

That female's brood and those of the others nesting here are vital. The leatherback is listed on the Red List of Threatened Species, compiled by the World Conservation Union (IUCN). Some nesting populations have collapsed completely and the 2004 tsunami was yet another blow: almost wiping the main nesting beach for leatherbacks in Sri Lanka off the map. Jamursba Medi alone used to attract up to 20,000 females each season, but researchers estimate that today only 3,000 to 4,000 come here at best.

Protection is complicated by the turtles' migratory routes which recent satellite tracking and genetic studies show to range far and wide. February 2004 data from Jamursba Medi show migration moving in three primary directions – towards the Philippines, north to Japan and out to Micronesia/the Marshall Islands in the central Pacific.

Another major nesting site, Warmon Beach, three hours east of Jamursba Medi, attracts similar numbers of turtles. These have been tracked foraging south to the Kei Islands and even as far as the Solomons. As we learn more about these movements, it is becoming clear that saving the leatherbacks will take more than simply reducing human-induced threats on their nesting beaches.

One of the biggest threats comes from the poaching of eggs, with man, wild pigs and dogs the main culprits. Based on recent assessments, these and other predators such as lizards, birds and crabs, claim greater than 70% of the eggs or young turtles on Papuan beaches.

Dogs are opportunistic feeders: they hang around for the pigs to dig first and then join the feeding frenzy once the nest is exposed.

The poachers are typically outsiders who trade goods with locals in exchange for access to the nests. The eggs are harvested and then sold in nearby towns and markets. In the past, egg exploitation at Jamursba Medi was quite intense – in 1984/85, four to five boats visited the beach weekly, each removing 10,000-15,000 eggs – but this activity has declined significantly since 1993 when WWF initiated intensive beach patrol and monitoring.

The Convention on International Trade in Endangered (CITES) lists the leatherback on its Appendix 1, which forbids the trade of turtle products and sub-products. Even so, the poaching of eggs is only one of a number of threats arrayed against the leatherback.

As is the case in Australia, Indonesian law generally protects all turtles but does allow some aboriginal tribes to take a few for consumption. Leatherbacks are traditionally hunted in the Kei Islands, the foraging ground for those turtles

## Finding Nemo, losing the leatherback?

In the 1960s, 10,000 leatherbacks and tens of 1,000s of other turtle species used to nest on the beaches of the Malaysian state of Terengganu each year. So important and widespread was this spectacle that the state symbol was a turtle.

But in 2005, according to WWF, only one leatherback came ashore. While green turtles still nest there, the leatherback – together with the olive ridley and hawksbill – are all but gone from Terengganu's coasts.

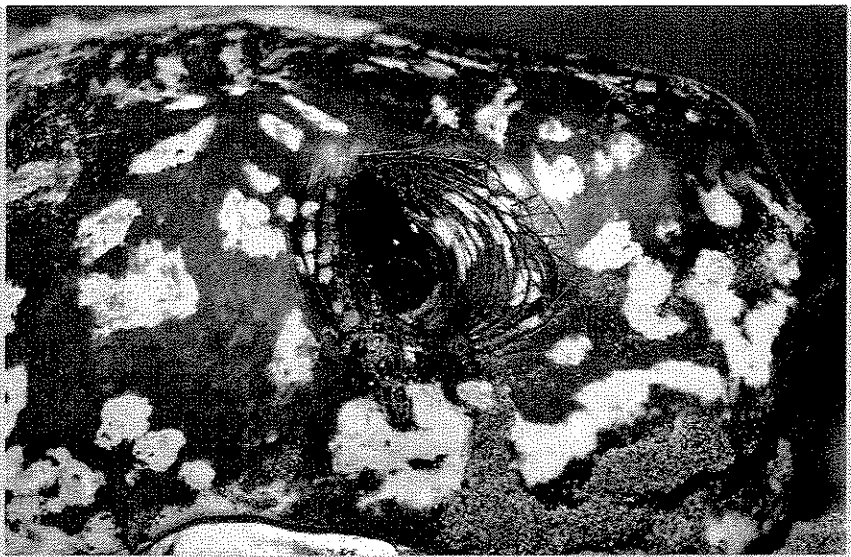
The state executive council recently decided to look for a more punchy mascot, and replaced the turtle with Disney's muse for the character Nemo, the false clown anemonefish.

Quoted in *The Star* newspaper, the head of the Terengganu state government, Mentri Besar Datuk Seri Idris Jusoh said: "The turtle is too slow. We prefer the fish because it is more agile and dynamic."

Asked if this meant a lower priority for turtle protection, he replied: "Nobody has been more forceful than the present state administration in protecting the turtles. We have gazetted 10 turtle sanctuaries and this reflects our deep commitment."

The tragedy behind this on-a-whim change of policy of course is that we simply cannot expect people to help save an animal that they do not know, appreciate or love.

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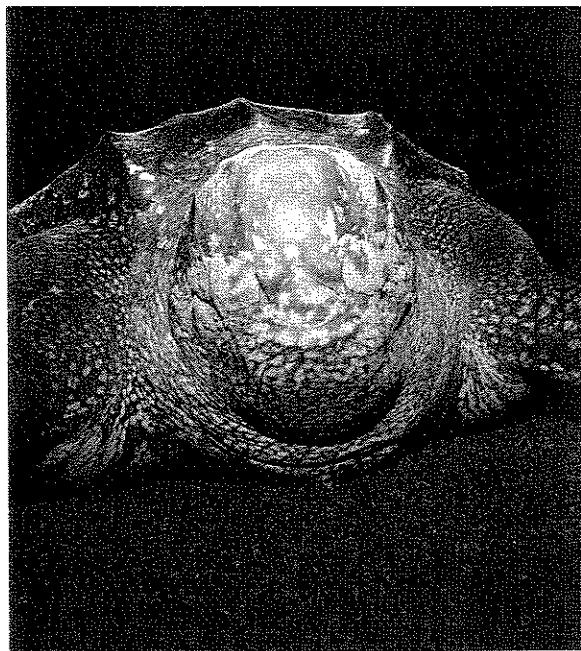


at Warmon Beach, though the numbers are small, with 36 females and six males killed there during the period from November 2004 to April 2005.

Far more significantly, the waters off the north coast of Papua are prime real estate for long-distance fishing fleets. Based on the Sorong Department of Fisheries licensing record, this region has seen a substantial increase in pelagic fishing activities – longlines set for tuna, gill nets, trammel nets and other techniques. These are all bad news for leatherbacks, especially the enormous longlines that can be hung with up to 100,000 hooks which indiscriminately snare many turtles.

As Papua is close to the eastern border of Indonesia's 'national economic exclusion zone', such fishing activities are present in the vicinity of nesting beaches. To make matters worse, conditions also dictate that the most productive fishing months are during the eastern monsoon when the sea is calm, therefore corresponding with the peak leatherback nesting season.

With longlining taking such a toll of leatherbacks as well as other species, 1,000 leading scientists have joined 281



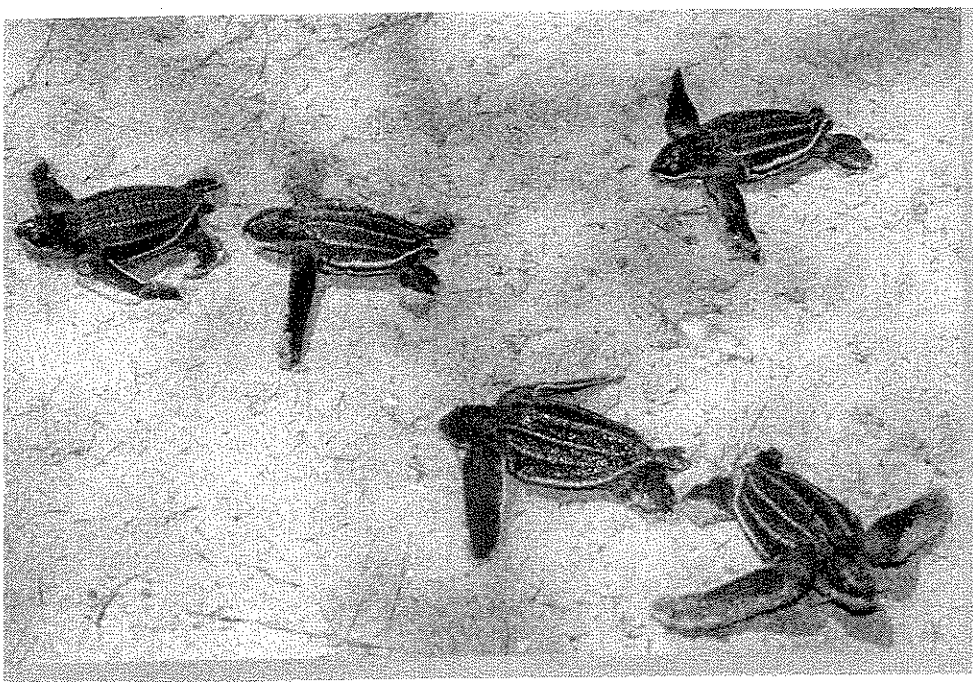
non-governmental organisations from 62 countries to demand that the United Nations implement an immediate moratorium on the practice.

Another incidental threat to leatherbacks comes from plastic debris afloat on the ocean. Leatherbacks' diet consists almost exclusively of jellyfish, with them chomping their way through

almost twice their bodyweight per day. Unfortunately this means that balloons, plastic bags and similar flotsam often become 'food' for hungry turtles. Ingesting such debris can obstruct the gut, lead to the absorption of toxins and reduce the ability to eat normally. All too often, these plastics cause suffocation or strangulation and ultimately death.

Sea turtles used the same nesting beaches for generation after generation. But all over the world, many of their favoured sand beaches in remote spots have been encroached on by resorts and restaurants. Female turtles are frightened away and their eggs crushed by humans sunbathing, playing and driving on the beaches. Upon hatching, the remaining baby turtles often get confused by the bright lights of buildings near the beach, heading towards them rather than to the

*Baby turtles often get confused by the bright lights of buildings, heading towards them rather than to the safety offered by the breaking surf*



safety offered by the naturally visible line of the breaking surf.

For many years, the remoteness of the Bird's Head peninsula of West Papua kept this leatherback habitat safe from the developers. Sadly though, current logging concessions extend to the boundaries of the nesting beaches. Harvesting the trees, as well as the transporting of logs and the construction of log ponds and campsites all potentially threaten the integrity of the beach structure and natural drainage patterns, and increase human interaction with the coastline. The nesting habitat is unlikely to remain viable in the face of this pressure.

A group called Seacology has set up a support program to help preserve the



turtle nests at Jamursba Medi beach. The organisation provides three years worth of scholarship funding for five students to attend junior high school, five students to attend senior high school or technical school, and three students to attend teachers college in exchange for establishing a 115 hectare 'no-take zone' on the nesting beach and a 65 hectare fringing forest reserve for a period of five years at Saubeba and Warmandi villages.

Arresting the leatherback's nosedive extinction goes beyond saving eggs on the beaches of Papua and buying a book or displaying 'save a leatherback' stickers of course. As they make long migrations, each one may come into contact with people of several nations. The conservation efforts for the population in one country may be jeopardised by the activities in another country.

After that female on Jamursba Medi beach had completed her work,

she turned toward the sea, pausing only to quickly assess the surf before picking her moment to crawl swiftly into the waves. Once afloat, her flippers became powerful wings with which she propelled herself away. Quickly, she was swallowed by the darkness.

Compared with the ageless genetic memory of the leatherback, returning to the same beaches generation after generation, our memories are all too fickle. We need constantly to be reminded of what is important. Yet there are no leatherbacks in aquariums. No leatherbacks in *Finding Nemo* or leatherback stuffed toys. This doesn't bode well. The leatherback has been around for millions of years but surviving us may test even its doggedness. ΔΔ

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## Edge-y conservation

British scientists have just launched a campaign aimed at saving some of the world's most unusual species of mammals.

The public's awareness of, and therefore contribution to, conservation efforts tends to be focused on icons such as the great panda or the tiger.

In a bid to expand that awareness, a group of scientists led by the Zoological Society of London (ZSL) have identified the 100 species of mammal with the fewest remaining related species.

Called the Edge project – short for Evolutionarily Distinct, Globally Endangered – it will focus for its first year on the 10 most threatened from that list of species.

These 10 include the Yangtze river dolphin (possibly already extinct as a recent survey failed to find any); the slender loris, endemic to Sri Lanka; Thailand's bumblebee bat, the world's smallest mammal and the long-eared jerboa from China and Mongolia.

Talking to *The Guardian*, ZSL's Dr Jonathan Baillie said, "If you were to think of an Edge species in art terms, it would be like losing the Mona Lisa, something that's irreplaceable and completely distinct."

The conservation group's website [www.edgeofexistence.org](http://www.edgeofexistence.org) is a central part of their strategy. "People can fund projects over the internet and, as soon as they are funded, we'll move forward with them. We'll also have blogs where people can follow progress, and web forums," said Dr Baillie.



### How you can help

- Eat less fish, especially tuna. Don't order tuna sashimi or tuna steak.
- Participate in beach clean-up programmes – specifically removing all plastic debris. If you see any in the sea, make an effort to remove it.
- Participate in a leatherback expedition and share your affinity and knowledge with the people around you.
- Encourage your favourite dive resorts

or liveaboards to conduct leatherback expeditions or marine awareness programmes.

- Contribute to saving leatherbacks in West Papua by donating directly to WWF in Sorong – the contact is: Creusa Hitipeuw, WWF Indonesia, Papua Program, Sorong Office, email: [chitipeuw@wwf.or.id](mailto:chitipeuw@wwf.or.id); tel/fax: (62-951) 324 537.