

Volunteers at work with Shoalwater's dolphins

by Barb Green

A team of volunteers, mostly from the one family, has been plying the waters of Shoalwater Islands Marine Park to study and identify Indo-Pacific bottlenose dolphins and understand more about these charismatic marine mammals.



Searching for dolphins in a small open boat during the coldest months of the year, sometimes in difficult sea conditions, may not be everyone's cup of tea, but it has become a regular undertaking for a small group of volunteers in Shoalwater Islands Marine Park off the coast of Rockingham, south of Perth.

The group regularly ventures out onto the waters of the marine park in an effort to gain an understanding of the ecological requirements of Indo-Pacific bottlenose dolphins (*Tursiops aduncus*). The volunteers, who are all family members, include keen wildlife photographer Peter Machen, grandfather Ron Green and 24-year-old Tom Mickle, who hasn't let blindness stop him from enjoying a keen love of fishing and the ocean.

This community-initiated and self-funded research effort started in November 2009 and is the first study of dolphins in Shoalwater Islands Marine Park since the park was established 21 years ago. The effort has resulted in identifying at least 85 individual dolphins that use the area. A



photographic identification catalogue of these animals has been compiled along with additional data collected during surveys, which will enable an analysis of dolphin use of the marine park and help to ensure increasing commercial and recreational activities do not affect dolphins directly, or the areas that may be critical for their long-term survival.

Distinguishing dolphins

Using a technique similar to that used in studies in the waters of other areas such as Cockburn Sound, the Swan River and Bunbury, members of the research group take and use photographs to identify individual dolphins. Each dolphin identified is

given a number and a name and added to a photographic identification catalogue. The choice of a name is often based on a distinguishing mark, or an observed behaviour. One female dolphin is named 'Kite' because it has a small flap of tissue sticking out of its dorsal fin from a previous injury. Another female is 'Mum' because it was always seen with its two-to-three-year-old calf. Another is 'Chalkie' because the white markings on the base of its dorsal fin resembles chalk dust.

Dolphins regularly rake (scrape) each other with their sharp teeth when mating and socialising, leaving marks and minor injuries that can scar. These, together with injuries and scars they get from interactions with fishing gear or vessels or from predators such as sharks, help to distinguish one from another.

Photographic models

Photographic identification of individuals relies on the collection of quality images. An ideal photograph shows the dolphin's dorsal fin outline and other markings clearly and is taken in profile to the camera lens. However, as dolphins spend most of their time underwater and are always on the move, getting a good photograph from a bobbing boat can be tricky.

Researchers make every attempt to photograph all dolphins seen during an encounter. But this is not always possible because of challenging sea conditions, because the water becomes too shallow to follow them (such as at reefs and sand bars) or because dolphins are evasive or are moving too quickly.



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Main Shoalwater Islands Marine Park.

Photo - Michael James/DEC

Inset top Indo-Pacific bottlenose dolphins.

Inset bottom Volunteer Ron Green searching for dolphins.

Above left 'Hack', one of the dolphins in the photographic identification catalogue, sustained injuries from a great white shark.

Left 'Chalkie' was named because of the white specks beneath its dorsal fin.

Photos - Barb Green



Above A pod of Indo-Pacific dolphins.
*Photo – Alex Steffe/Lochman
 Transparencies*

Below Shoalwater Islands Marine Park.
Photo – Jiri Lochman

preferred habitats. An examination of this issue in coastal waters extending from Cockburn Sound northward to Marmion Marine Park has recently been initiated by Murdoch University's Cetacean Research Unit. Complementary to this, volunteers in Shoalwater Islands Marine Park will extend their surveys southward to include Comet Bay and the Mandurah estuary system as opportunity, weather and sea conditions permit.



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Young adults and calves are generally not included in the identification catalogue as they don't always have distinguishing markings and can't easily be re-identified. It is likely these 'missed' identifications will be added to the catalogue as the individual ages, and acquires more marks or scars.

Battle scars

Analysis of the photographic identification catalogue for the marine park shows that 14 of the 85 identified dolphins have some form of injury not likely to have been caused by another dolphin. Ten of these dolphins, most of which are females, have markings consistent with shark bites. Dolphins typically heal quickly when injured and their recovery from bites that cut deep into their body can be remarkable. One pregnant dolphin, named 'Hack', was badly bitten around the dorsal fin and upper body by a great white shark in September 2010. Incredibly, Hack recovered after spending a short time swimming around the marine park alone, and gave birth to a healthy calf in January this year. Hack is now regularly seen in a nursery group of mothers, aunties and calves, and appears to be doing well.

A male dolphin, 'Abicus', is thought to have had the tip of its dorsal fin cut off by a boat propeller because of its propensity to beg boat fishers

for their catch. Abicus is estimated to be about 30 years old and one of the oldest dolphins in the marine park. It has a wily character and often hovers by boats blowing bubbles and holding its head above water. The placement of educational signage at boat ramps around the marine park asking people not to feed dolphins will hopefully lead to Abicus becoming used to catching its own fish rather than begging. This will decrease the risk of it being injured further and will reduce the risk of it teaching other dolphins the same behaviour.

Homebodies

Recently, the identification photographs of 100 dolphins known from Cockburn Sound were compared with the 85 dolphins of Shoalwater Islands Marine Park. Interestingly, Abicus was the only individual known to both areas, which are only three kilometres apart.

The lack of movement of the dolphins between Cockburn Sound and Shoalwater Islands Marine Park may indicate that Indo-Pacific bottlenose dolphins hold a strong affinity for certain coastal areas and there may be discrete populations of this species along the Perth coast. If this proved to be the case, the finding would have important ramifications for the conservation of the species in their

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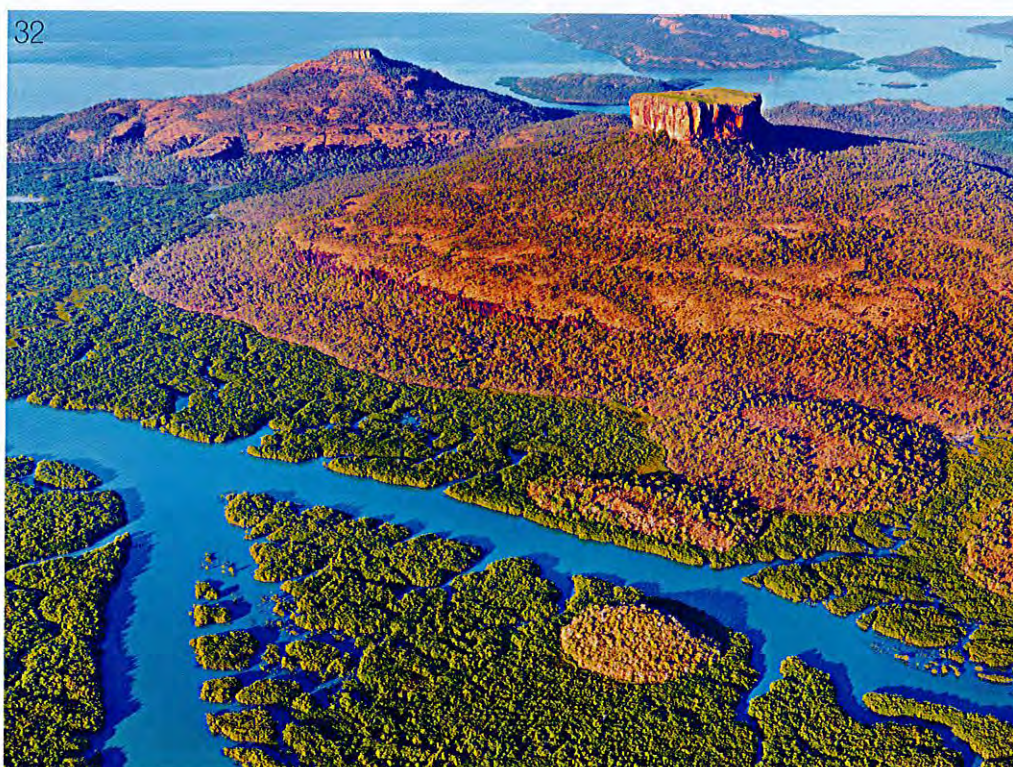
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