

# Sounding out the snubfin dolphin

■ Kandy Curran

One of the great scientific surprises in recent times is how an inshore dolphin with a melon-shaped head and smiley mouth was discovered as Australia's first endemic species of dolphin as recently as 2005.

Particularly as Roebuck Bay has the largest known population of snubfin dolphins, and pods are often seen in the bay's busy deepwater channel and around creek mouths.

While these peculiar-looking cetaceans are incredibly enigmatic and intriguing, for Alex Brown from Murdoch University's Cetacean Research Unit, it was the lack of baseline knowledge that motivated his decision to undertake a PhD on inshore dolphins on the Kimberley coast in 2011.

"My project is addressing the lack of baseline information on inshore dolphins and how they might be influenced by pressure from coastal development across the Kimberley coast," Mr Brown said.

"I have been gathering data on their abundance, distribution and genetic connectivity."

It is a rare opportunity to be on a boat for the day with Mr Brown and his research assistants — all passionate marine scientists.

Everyone's buoyed up, having just finished a month-long survey of zigzag transects of Roebuck Bay (seven times), equalling their efforts last October.

"During the zigzags, photos of individuals are taken using individual marks on their dorsal fins," he said.

"We then use a mathematical model to estimate how many dolphins are using that area of the bay over the course of the study period."

After several months of work in Cygnet Bay and Roebuck Bay, Mr Brown said researchers had now photographically identified more than 170 individual snubfin dolphins.

He said the encounters with larger, socialising groups had resulted in some spectacular images of the animals.

In a report submitted by Mr Brown to World Wildlife Fund Australia in February this year, it documented that Roebuck Bay has the largest known population of Australian snubfin dolphins to date.

The target on April 26 was to gather more information on the genetics of snubfins and this involved spending the day in known spots where they assemble



Traditional owners are important contributors on the research team. Pictures: Alex Brown MUCRU/WWF-Australia

and the use of a specialised dart gun to grab small tissue samples from individual dolphins.

There were no disappointments as more than 40 snubfins were sighted socialising, feeding and even using a 'water spitting' technique that herds fish.

On that occasion, it attracted a tern that hovered in expectation for a feed just above the dolphin's head.

Hovering on the bow was Mr Brown, who was waiting for verification of individuals from photos taken by his research assistants, who used a high-powered telephoto lens set on continuous shooting mode.

Within seconds, snubfins were identified that had not had a biopsy and, after assessing whether sampling was appropriate considering the behaviour of the dolphins and sea conditions, Mr Brown took aim and waited for the animals to emerge sufficiently from the water for the dart to enter at the right place to secure a small amount of skin or blubber.

As a result, five new dolphins were sampled.

The small tissue samples will



A pod of snubfins in Cygnet Bay.



Snubfin dolphins socialising.

help to estimate the level of genetic mixing between dolphin populations in Roebuck Bay and Cygnet Bay.

With dolphins being excellent swimmers, and Roebuck Bay frequented by more than 140 snubfins, a layperson might think the two isolated populations were genetically connected.

But this does not appear to be the case.

"Preliminary data from over 50 tissue samples collected by cetacean researchers Dr Deb Thiele, Simon Allen and myself,

from snubfin dolphins in Roebuck Bay and cross-checked with samples from Cygnet Bay, indicate there is limited genetic connectivity between the two populations," Mr Brown said.

"This shows a degree of isolation, and suggests that they should be managed as separate populations."

An important outcome of Mr Brown's research was the knowledge that Roebuck Bay's snubfins need careful

management and the local community needs to be mindful of

the amount of run-off and rubbish entering Roebuck Bay.

Fishers also need to be on the lookout for these dolphins, especially around the bay's creek mouths, shallow muddy waters and mangroves.

Moreover, in the deepwater channel where boats may travel faster, it is a matter of slowing down if a snubfin is sighted nearby until the animal is out of range.

■ Kandy Curran is project manager of the Roebuck Bay Working Group



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