

# Shark research produces the unexpected

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In a surprise result, James Cook University scientists have found female blacktip reef sharks and their young stay close to shore over long time periods, with adult males only appearing during the breeding season.

The researchers also discovered the sharks had a mysterious attraction to a specific bay near Townsville.

Lead author, JCU's Dr Andrew Chin, said the data from an area adjacent to the city wasn't what they expected and points to an even more important role for coastal areas than previously thought.

"Adult female sharks are supposed to come in seasonally to give birth, and then leave. But these adult females seem to remain in these areas all year round, and give birth there. The young grow up in muddy coastal bays using seagrass beds and mangroves before migrating."

The team tagged over 100 sharks and fitted 28 sharks with tracking tags to follow their movement patterns for more than two years.

"Neonates and juveniles were short-term residents; adult females were long-term residents and preliminary data suggest that [adult males](#) were vagrants, arriving in the area only to breed," said Dr Chin.

He said the study was the first in the Pacific to show that young reef sharks grow up alongside breeding adult females, using coastal habitats like seagrasses and mangroves. When they reach teenage years, they move to reefs offshore. But their particular attachment to Cockle Bay on

the south side of Magnetic Island remained a puzzle.

"It doesn't appear to be linked to the availability of specific habitat types. There are extensive areas of mangroves and mudflats and fringing reef habitat, sand, mud and rubble flats nearby. But the [blacktip reef sharks](#) from Cockle Bay didn't use them. Some of them even stayed in the bay as a Category 5 cyclone approached while all the other sharks in the area left."

Cockle Bay is within a conservation park yellow zone where commercial net fishing is not allowed. Dr Chin said the zone gave good protection to the resident breeding females, but the current study made it even more important not to be complacent as these areas are popular with recreational anglers.

"While blacktip reef sharks aren't prime target species like barra or trout, if recreational fishers start keeping too many sharks from there, it could have wider effects. Our study highlights the importance of protecting coastal habitats, and also managing these breeding grounds to ensure that [adult females](#) are looked after."

**More information:** A Chin et al. Population organisation in reef sharks: new variations in coastal habitat use by mobile marine predators, *Marine Ecology Progress Series* (2016). [DOI: 10.3354/meps11545](https://doi.org/10.3354/meps11545)

Provided by James Cook University

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