NERP Tropical Ecosystems Hub Project Factsheet

Drivers of juvenile shark biodiversity and abundance in inshore ecosystems of the Great Barrier Reef

Project leader: Dr Colin Simpfendorfer (JCU)

Project summary

This project is investigating changes in the biodiversity of sharks in inshore nursery areas along the Great Barrier Reef (GBR) coast. The aim is to understand how different factors, such as habitat, season, zoning and environmental parameters, such as discharge from rivers and streams, affect the abundance and diversity of sharks along the central GBR coast.

Why this research is needed

Sharks are facing increasing threats from fishing and other human activities. Inshore areas, which are important nursery areas for sharks, are also popular for fishing and are influenced by freshwater discharge from coastal streams and rivers. If shark populations are going to be sustainably managed into the future, a better understanding of the impact of these pressures on juvenile sharks and critical nursery habitats is required.

Research-user focus

Results from the project will be used to improve the information available to fisheries and marine park managers on the relative importance of inshore habitats, the role of areas closed to fishing and the sustainability of inshore shark populations. Research users include the Great Barrier Reef Marine Park Authority (GBRMPA), Queensland Department of Agriculture, Fisheries and Forestry, Queensland Department of Environment and Heritage Protection, and the Queensland Seafood Industry Association.

Research Provider:

JAMES COOK UNIVERSITY AUSTRALIA

Inshore waters are important nursery habitats for many shark species, including this Great Hammerhead that was tagged and released during nursery surveys.

PhD student Audrey Schlaff releases a juvenile blacktip reef shark fitted with an acoustic transmitter at Orpheus Island to study how changes in environmental conditions affect their movement patterns.

Photos (from top): Andrew Chin; Colin Simpfendorfer

Outcomes

Outcomes of the project will include reports on:

- The distribution of inshore shark biodiversity along the central GBR coast.
- Temporal changes in inshore shark biodiversity along the central GBR coast and the factors that drive these changes.
- The effects of environmental factors, such as salinity and temperature, on the movement, distribution and habitat use of juvenile sharks and implications for their conservation and management.

Find this project at www.nerptropical.edu.au
Theme 2: Understanding ecosystem function and cumulative pressures
Program 6: Movements and habitat use by marine apex predators
Project: 6.2

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