



## Reef sharks' return helps ecosystem thrive

### The challenge

Remote Ashmore Reef, a coral atoll 350km off the Kimberley coast near Australia's border with Indonesia, was a target for illegal shark fishing threatening the health of the reef.

Reef sharks play an important role maintaining a healthy ecosystem, but because this population was in severe decline the number of mid-size predatory fish increased, eating more of the smaller herbivorous fish that keep the coral healthy by feeding on turf algae. The algae grow on reefs damaged by coral bleaching events and cyclones and prevent coral larvae from settling resulting in less coral cover.

These climatic disturbances place increasing pressure on coral reefs. They are longer-lasting, more severe and bleaching is occurring more often.

### The approach

In 2004, following a spike in foreign vessel incursions into Australia's northern waters, AIMS scientists surveyed shark communities at Ashmore and found some species were completely absent. The results contributed to the Australian Government's National Plan of Action for Illegal, Unreported and Unregulated Fishing.

In 2008 a total fishing ban was introduced along with strict enforcement of the marine protected area by naval patrols. Before the ban, 260 illegal vessels were apprehended from 2004 to 2007. By 2017, only three illegal fishing vessels were detected in those waters.

The ban provided an ideal platform to monitor the recovery rate of shark populations at Ashmore Reef.

## The impact

AIMS enabled the Australian Government to understand the effectiveness of its policy on illegal fishing.

The research provided compelling evidence supporting enforcement of marine protected areas.

In eight years of no fishing, the population of sharks on Ashmore grew four-fold, and the reef has now recovered to a near pristine level.

This new knowledge on the effectiveness of the Government's enforcement response to illegal fishing at Ashmore confirms the policy setting and will help guide management practices at reef systems and shark sanctuaries throughout the world.



ASHMORE REEF  
DATA SETS

2004 and 2016



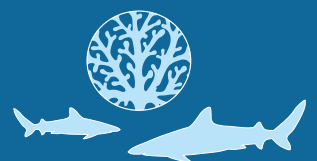
TOTAL  
FISHING BAN

2008



REEF SHARKS  
2004 - 2016

+ 29 %



HEALTHY SHARK  
POPULATIONS

=

HEALTHY REEFS