

Full recovery from winter bleaching at Ningaloo Reef

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Ningaloo Reef's first major coral bleaching event was recorded in July 2006.

Bleaching appeared to be caused by cold temperatures: aerial exposure of corals caused by a low spring tide and a high pressure system occurred during a period of cold air temperatures. Observations made during an aerial survey indicated that bleaching occurred along most of the Ningaloo Reef. Bleaching was restricted to shallow-water corals in back-reef and patch-reef environments which were dominated by plate and corymbose acroporids. Submerged corals appeared to remain unbleached. The most severe bleaching was recorded at Pelican Point (Figure 1) where approximately 83 per cent of live hard coral was bleached.

Corals recovered from bleaching within three months. Subsequent field observations suggest reef-wide recovery.

Although the number of reports of mass coral bleaching has increased substantially worldwide in recent years, this was the first, and so far the only, temperature-related coral bleaching event to be recorded at Ningaloo Reef. Almost 100 per cent recovery has been observed. This indicates that Ningaloo Reef corals may be less susceptible to bleaching than other reefs worldwide. This warrants careful conservation of Ningaloo Reef and further study into the specific mechanisms of the reef's apparent resilience.

Above: Corals bleached from cold temperatures at Ningaloo Reef in July 2006. Below: Aerial photo taken after the event showing shallow-water bleached corals on patch-reefs at Ningaloo Reef.

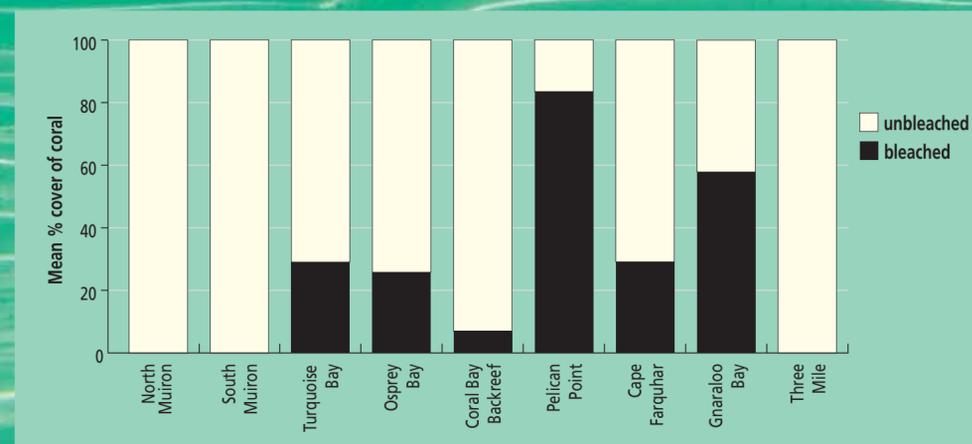


Figure 1 Bleached coral cover at nine sites, a month after the event. Cover was recorded by benthic video along nine 20 m transects per site. The highest proportion of bleaching was recorded at Pelican Point where approximately 83 per cent of live hard coral was bleached. No bleaching was recorded at the Three Mile, North Muiron or South Muiron sites where corals were likely to have been submerged during the bleaching event.



Figure 2 The position of the nine sites where the proportion of bleached corals was recorded at Ningaloo Reef, Western Australia.

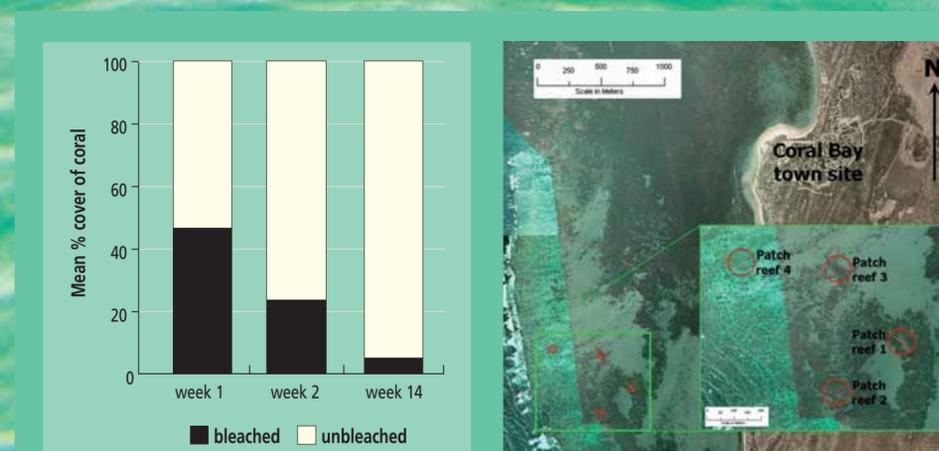


Figure 3 (left) Four patch reef sites at central Ningaloo Reef were monitored for coral recovery. Cover was recorded by benthic video along one 20 m transect per patch reef and averaged to give one value for the four reefs. Corals recovered steadily over a 14 week period at which point approximately 90 per cent of coral had recovered from bleaching.



Figure 4 (right) The position of the four patch-reef sites near Coral Bay at central Ningaloo Reef.