

Senate Standing Committee on Environment and Communications
Legislation Committee
Answers to questions on notice
Environment portfolio

Question No: 167
Hearing: Supplementary Budget Estimates
Outcome: Agency
Programme: Great Barrier Reef Marine Park Authority (GBRMPA)
Topic: Crown-of-Thorns Starfish - Breeding
Hansard Page: N/A
Question Date: 4 November 2015
Question Type: Written

Senator McLucas asked:

1. When is the prime breeding time for Crown of Thorns starfish and how far can they spread during breeding?

Answer:

Adult crown-of-thorns starfish have been observed spawning between November and February on the Great Barrier Reef. This time period coincides with the monsoon season when major rainfall–runoff events are most likely to occur and wash terrestrial nutrients into coastal waters.

The extent of dispersal of crown-of-thorns starfish larvae after spawning is dependant on multiple factors. These include the direction and strength of prevailing currents, the proximity of suitable downstream reefs and the duration of larval survival in the plankton (which can be enhanced by elevated nutrients).

Recent research indicates that hydrodynamic circulation patterns associated with the positive, neutral and negative phases of the El Niño-Southern Oscillation play an important role in determining larval dispersal and the crown-of-thorns starfish outbreak dynamics. Reefs between Cooktown and Cairns appear to be particularly prone to the development of primary starfish outbreaks due to their proximity to the coast and hence nutrient rich flood plumes, coupled with the high degree of local connectivity between reefs under neutral El Niño-Southern Oscillation conditions.