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CORALS AT RISK: EFFECTIVENESS OF THE REMOVAL OF A KEYSTONE CORAL-PREDATOR *ACANTHASTER PLANCI*, IN A MARINE PARK OF MALAYSIA

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Assessing and managing threats to the coral reef health is essential to devise appropriate conservation strategies. Destructive population explosions of the coral-eating predator crown-of-thorns (COT) sea star are responsible to large-scale disturbance of coral reefs throughout the Indo-Pacific. Invertebrate coral-eating predators are, however, one of the few threats that could potentially be directly managed through targeted predator removal. Volunteers remove hundreds of sea stars every year in Malaysia in an attempt to control outbreaks in protected areas. The present study describes the status of the COT populations in the Pulau Tioman Marine Park and examines the impact of the manual removal of the sea stars on coral reefs. We therefore compared COT densities and coral communities at sites where COT have been removed every year since 1998 with sites where no sea stars removals were conducted. Our surveys revealed that COT densities are well above the critical density threshold suggesting active outbreaks at most sites, regardless of the removal effort. Further, sea urchins occurred at much higher densities at removal sites, although not correlated with COT densities. Field and lab experiments were conducted in Hong Kong to further examine the role of sea urchins on the bioerosion of corals. Our results suggest that unthinking and unfocussed programs to control coral predators' impact are generally unsuccessful and may even prolong the damage.

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21 Oktober 2010

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