

DEGRADATION AND RECOVERY OF CORAL COMMUNITIES AT A TOURIST SPOT, KOH TAO, GULF OF THAILAND.

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Koh Tao is one of the most popular tourist destinations in the last two decades, especially snorkeling and SCUBA diving. Degradation trends of coral communities at Koh Tao were caused by both natural and human factors. The severe coral bleaching in 1998, the first time in the Gulf of Thailand, resulted in high mortality rates of several coral species, especially *Acropora* spp.. Typhoons also seldom hit Koh Tao and patchy coral damages in certain reef sites were obviously observed. A variety of human forces resulted in deterioration of coral communities, such as land development, wastewater discharges, increased sediment in the water because of illegal trawling near the island, trampling by tourists, divers and anchoring. Data from the recent surveys in 2002 clearly showed signs of natural recovery. Recruit of several coral species were frequently found on dead coral colonies, rocky substrate and soft bottom. Average of juvenile colony densities was 6.44 colonies/m². The dominant species of juvenile colonies were *Fungia* spp., *Pocillopora damicornis* and *Echinopora lamellosa*. Other dominant coral recruits were *Pavona* sp., *Porites* spp., *Goniastrea* spp. *Favites* spp., *Leptoria* sp. and *Montipora* spp.. In general, coral community conditions in deeper zone were better. Increased abundance of macroalgae was found in certain areas. Partial mortality on head of massive corals, e.g. *Favia* spp., *Favites* spp. and *Porites lutea* was clearly observed in shallow zone of certain study sites, such as Sai Ree Beach and Chaloak Bankao Bay. A future challenge of coral reef management for tourism at Koh Tao is implementation of integrated coastal management plans, especially effectiveness of tourism management. Studies on carrying capacity at Koh Tao are also urgently required to sustain coral reef resources.