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Abstract:

Kham Island (Lat. 13° 14' N; Long. 100° 52' E) is one of 12 islands in Sattahip Bay, Upper Gulf of Thailand. This island is rich in variety of corals and other fauna. However, the fragile coral reef ecosystem of the island has been heavily impacted as a result of the activities of the Navy, as compared with other parts of the Upper Gulf. Transplantation of corals was carried out on this island as one of the scientific steps taken to restore the damaged coral ecosystem. Transplantation of the hard corals: *Platygyra* spp., *Monastrea* spp., *Porites lutea*, *Favia* spp., *Symphyllia radians*, *Galaxea fascicularis*, *Montipora* spp., *Favites abdita*, *Pavona florida*, *Diploastrea* sp., *Acropora* spp., and soft corals *Sinularia* sp. and *Xenia* sp. was studied during the period from March 1995 to October 1997. A technique was developed for the rapid fixation of coral branches and heads on concrete plates using a special cement, applied in air and underwater. A total of 260 massive coral colonies, 40 coral branches and 3 soft coral colonies representing 13 genera were removed by hand from reef sites degraded by high sedimentation. The coral colonies were transported by navy boats from the collection site to the transplantation site, a new reef area 60 minutes away. During transportation, the corals were submerged in a container containing seawater, and provided aeration and some seawater exchange. After 6 months, the overall survival of the coral colonies was 92%. Small colonies of the coral *Porites lutea* did not survive. The annual linear growth rates of the surviving colonies were recorded by measuring the maximum widths at the base of the colonies, and heights. Newly generated branches were counted in order to study growth in *Acropora* spp. In addition, an assessment of the condition of transplanted corals was made by studying the percentage cover of living polyps, as well as polyps lost in coral colonies.