

C625791 : MAJOR MARINE BIOLOGY

KEY WORD: MONITORING / CORAL COMMUNITY / UNDERWATER PHOTOGRAMMETRY / STRUCTURAL CHANGE

ARNUPAP PANICHPOL : MONITORING OF STRUCTURAL CHANGES ON CORAL COMMUNITIES AROUND KO KHANG KAO CHON BURI PROVINCE BY UNDERWATER PHOTOGRAMMETRY. THESIS ADVISOR : ASSOC. PROF. PADERMSAK JARAYABHAND, Ph.D. THESIS CO-ADVISOR : ASSOC. PROF. NITTHARATANA PAPHAVASIT, 79pp. ISBN 974-636-792-7

Monitoring of structural changes on coral communities around Ko Khang Kao Chon Buri Province was carried out during July 1995 to July 1996 at study sites A C and D which were the same study sites as in the Cooperative Research Project between Chulalongkorn University and University of the Ryukyus, Japan. The coral communities in this area, when divided into percent coverage of living corals, dead corals, rocky and sandy substrates and other forms of living organisms other than corals, consisted of highest coverage of living corals at study sites A and C within the range of 48.17-53.85 and 47.74-72.64 respectively. The study site D has the least percentage of living forms of 10.8 to 21.3. The percentage coverage of living corals increased with depth at all study sites. Among the four growth forms of corals; massive, foliose, branching and tabulate, the massive corals was dominant in Ko Khang Kao. The coral communities comprised of 14 genera with the dominant genera of *Porites* spp. Corals in the genera *Pavona* and *Pocillopora* were next in term of dominance respectively. Depth and study site were found to influence the diversity of corals according to species, growth and percent coverage of living corals.

Environmental factors namely; average temperature, salinity, dissolved oxygen and pH at each study sites were similar throughout the study period. From May to August, during the Southwest monsoon period, high sedimentation at Ko Khang Kao occurred in particular at study site C of $110.60 \pm 16.07 \text{ mg/m}^2/\text{day}$.

The underwater photogrammetry used in this study is suitable and precise for the monitoring of structural changes on coral communities at fixed quadrats in longer terms.

ภาควิชา วิทยาศาสตร์ทางทะเล

สาขาวิชา วิทยาศาสตร์ทางทะเล

ปีการศึกษา 2539

ลายมือชื่อนิสิต *Emy Gnl*

ลายมือชื่ออาจารย์ที่ปรึกษา *Malunnon 42*

ลายมือชื่ออาจารย์ที่ปรึกษาร่วม *Malunnon 42*