

Chanokphon Jantharakhantee 2010: Polychaete Community in Seagrass Beds at Phang-nga Province after Tsunami. Master of Science (Marine Science), Major Field: Marine Science, Department of Marine Science. Thesis Advisor: Associate Professor Chittima Aryuthaka, D.Sc. 148 pages.

Seagrass beds at Kuraburi disturbed by the 2004 Tsunami. The levels of disturbance impact were highest at Thung Nang Dam, moderate at Mai Hang and low or unimpacted at Ko Chong. Sampling for macrobenthic and polychaete communities, particle size and organic matter was undertaken. Samples were taken in March and October 2007.

Mean macrobenthos densities ranges from  $48 \pm 23$  to  $2,751 \pm 856$  individuals.m<sup>-2</sup> and polychaete densities ranges from  $36 \pm 15$  to  $546 \pm 143$  individuals.m<sup>-2</sup>. Changes in macrobenthos densities and polychaete densities varied between sites in March and October the highest densities were recorded in Ko Chong and lowest densities in Thung Nang Dam. There were 94 polychaete species from 24 families recorded in total. The family with the highest numbers of species was the Spionidae. Species diversity (Shannon-Wiener, H') ranged from  $0.64 \pm 0.04$  to  $2.53 \pm 0.32$  nat. At all three sites the dominant species among the seagrass were *Lumbrineris* sp.2, *Armandia* cf. *lanceolata* and *Prionospio cornuta*, while in bare sediment areas *Perinereis* sp.2 *Lumbrineris* sp.2, *Armandia* cf. *lanceolata*, *Glycera* sp. 1 and *Scoloplos (Leodamas) gracilis* were the most abundant. Carnivore and subsurface deposit feeder were the most abundant feeding category in seagrass and bare sediment.

Sediment type in March and October within seagrass beds did not changed while barren area in Thung Nang Dam changed from fine sand to coarse sand. By contrast Ko Mai Hang and Ko Chong changed from medium sand to fine sand. The highest levels of organic matter were recorded in Ko Mai Hang in March ( $0.24 \pm 0.17$  to  $0.69 \pm 0.09$ ) and lowest were recorded in Thung Nang Dam ( $0.18 \pm 0.06$  to  $0.44 \pm 0.31$ ). While in October the highest organic matter values were recorded in Thung Nang Dam ( $0.46 \pm 0.06$  to  $0.57 \pm 0.17$ ) and lowest were recorded in Ko Mai Hang ( $0.26 \pm 0.07$  to  $0.35 \pm 0.15$ ).

Temporal changes in macrobenthos and polychaete communities, grain size and organic matter were not solely related to the magnitude of tsunami disturbance.

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Thesis Advisor's signature