

Apichai Worasing 2014: Guidelines for Determining Measures of Pair Trawl Fishery Around the Eastern Gulf of Thailand: A Case Study from Length at First Capture of Short Mackerel, *Rastrelliger brachysoma* (Bleekersures, 1851), Threadfin Bream, *Nemipterus hexodon* (Quoy and Gaimard, 1824) and Big Eye, *Priacanthus tayenus* (Richardson, 1845). Master of Science (Marine Science), Major Field: Marine Science, Department of Marine Science. Thesis Advisor: Mr. Anukorn Boutson, D.M.S. 120 pages.

Sex ratio and length at first capture of sub-population of Short Mackerel, *Rastrelliger brachysoma* (Bleeker, 1851), Threadfin Bream, *Nemipterus hexodon* (Quoy and Gaimard, 1824) and Big Eye, *Priacanthus tayenus* (Richardson, 1845) around the Eastern Gulf of Thailand were carried out by randomly sampling of fish specimens from pair trawlers docked from December 2008 to January 2010. The specimens were examined by measuring of total length and dissected for sex determination. The results showed that, totally 683 specimens of Short Mackerel were examined. 10.6 - 22.2 cm size range of 362 males and 321 females, respectively. The sex ratio was 1: 0.89 which statistically non significant. For monthly level, the sex ratio of male in April, May, June and October 2009 was significant higher while in December 2009 the ratio of female was higher. Results for length of the first capture according by potential catch probability in males, female and mixed sex were 14.14, 14.66 and 14.34 cm, respectively.

Totally 836 specimens of Threadfin Bream were examined. 6.75 – 26.75 cm size range of 427 males and 409 females, respectively. The sex ratio was 1:0.96 when compare in 14 months which statistically non significant. Results for length of the first capture according by potential catch probability in male, female and mixed sex were 12.17, 12.29 and 12.38 cm, respectively.

Totally 850 specimens of Big Eye were examined. 9.3 – 25.7 cm size range of 453 males and 397 females, respectively. The sex ratio was 1:0.88 when compare in 14 months which statistically non significant. Results for length of the first capture according by potential catch probability in males, female and mixed sex were 15.61, 15.72 and 15.68 cm, respectively.

In these studies can conclude that, the pair trawl fishery around the Eastern Gulf of Thailand, there is using mesh size that inappropriate because it captured three economic fish before mature size of each species. It is a negative effect to next cohort of each species. Thus, the measures will appropriate to apply around Eastern Gulf of Thailand are the measure specification of mesh size expansion of pair trawl fishery and seasonal close.

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Thesis Advisor's signature