

Bongkoch Chaiwichayan 2009: Investigating the Differences of Sampling Population of Blue Swimming Crab (*Portunus pelagicus* Lin) from Traps with Different Net Color and Mesh Size: Contributions to Fish Stock Assessment and Fisheries Management. Master of Science (Fishery Management), Major Field: Fishery Management, Department of Fishery Management. Thesis Advisor: Assistant Professor Jiraporn Trisak, Ph.D. 64 pages.

This study examined catch and selectivity of collapsible crab trap typically used in small-scale swimming crab fishery. The main aim was to compare the efficiency and selectivity between the trap made with different form of net, red net vs. green net and large mesh size vs. small mesh size. The results revealed that the red net trap with large mesh size (2.50 cm) significantly yielded higher catch than the green net trap of the same mesh size. Also, the catch from the red net trap comprised of, on the average, larger crabs and had more various size classes than those caught from the green net trap. Given the same red net color, the trap with small mesh size (0.75 cm) caught more numbers of crabs than the trap with large mesh size. The catch from the trap with small mesh size comprised averagely smaller crabs than those from the trap with large mesh size, but with several more size classes. There was no evidence of sex selectivity among the trap with different form of net, red large mesh-size net, green large mesh-size net and red small mesh-size net. All the three forms of net of the collapsible traps equally caught male and female crabs. Considering in a short-term, the catch from the collapsible crab trap with red net produced more income and profit than those from the trap with green net because of higher yield. The fishing cost for the trap with red net will be much higher than that for the trap with green net due to the repairing expenses. Over a long period of time it is uncertain that fishing with the trap with red net is more profitable. However, the economic issue is beyond the scope of this study. Furthermore, the evidence of size selectivity suggested that none of the sampling population sampled by the trap with all forms of net was a good representative of represent the population in the wild being studied. Because of the difference in the selectivity among the trap with different form of net, e.g. the trap with red net selectively caught the size classes that differed from these caught by the trap with green net, researchers may want to consider employing traps with various form of net, including with different shape and size in their studies so as to obtain as many size classes as possible.

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Thesis Advisor's signature

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