

Environmental Assessment of the Set-net Operation in Rayong Province, Thailand

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ABSTARCT

Environmental assessment of set-net operation in Mae Rumphueng Beach, Rayong Province was conducted around the set-net fishing ground during 2013-2014. Field surveys were done within the set-net A, set-net B and the reference area in the beginning (October 2013), middle (January 2014), ending (April 2014) periods of the operation and six months after the operation ending (October 2014). The results of paired t-test using the all measured data show that acid volatile sulfide (AVS) of the bottom sediments were not significantly different between any pair of the four periods ($p>0.05$). Additionally, average amount of AVS over the all three areas in the beginning (0.0011 ± 0.0018 mg/g dry, mean \pm S.D.), middle (0.0026 ± 0.0029 mg/g dry), ending (0.0028 ± 0.0028 mg/g dry), and after-ending (0.0053 ± 0.0117) were much lower than the criteria value for critical farm (2.5 mg/g dry proposed by Yokoyama, 2003). The densities of benthic macro-fauna in the set-net stations were significantly higher than those in the reference stations during the middle and ending periods; whereas those during the beginning and after-ending periods were not significantly different from each other. These results indicate that set-net operation was not relevant to the polluted substance, AVS, but induced the increment of benthic macro-fauna density during the operation season and that recovery of the initial condition took place soon after removal of gear construction.

Keywords: set-net, acid volatile sulfide (AVS), benthic macro- fauna, environmental assessment