RELATIONSHIP BETWEEN WATER AND SOIL QUALITIES WITH CONDITION INDEX OF COCKLE *Anadara granosa* IN BANDON BAY, SURATTHANI PROVINCE

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ABSTRACT

The study on water and soil quality on the fertility of cockles *Anadara granosa* in Bandon Bay, Suratthani province. The samples were collected from three stations in the experimental plot. The results showed that the concentrations of total alkalinity, temperature, salinity, transparency, nitrate-nitrogen, nitrite-nitrogen, ammonia-nitrogen and phosphate-phosphorus and BOD were considerably low during the end of year. There was statistical difference in some water quality parameters between station 1, 2 and 3 (P< 0.05). The monthly water quality parameters at each station were fluctuated all year round. While the salinity and total alkalinity were low during August to December. There was a distinct positive relationship between salinity and the condition index of cockles with the correlation coefficient of 0.83. While low degree of the relationship were found with the rest of the water quality parameters. Temperature were found high degree of the relationship with the size of cockles in 3 station but while low degree of relationship with the rest of plankton. Soil pH values were found higher during May to October, however there was no statistical difference between three stations (P> 0.05). The relationship between soil pH and cockle condition index was found in low degree with the correlation coefficient of -0.48.

**Key words**: Cockle, water qualities, soil qualities, Bandon Bay Suratthani Province

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