

# **Environmental condition in cultured area at Bandon Bay, Surat Thani Province**

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## **ABSTARCT**

The environmental condition in cultured area at Bandon Bay, Surat Thani Province during 2012-2014 was investigated. Physical data, water quality, sediment and phytoplankton from expected areas both in summer and rainy season were kept and determined. It was found that ammonia, nitrite, nitrate, orthophosphate, and silicate were higher in rainy season compared to summer, except for dissolved oxygen. Higher organic matter contents and acid volatile sulfide in sediment were expressed in the east coast (muddy and loamy soil) than the west coast (sandy soil) with variation content in layers. The different contents of protein, carbohydrates and uronic acids in the sediment in both seasons and depth were appeared. pH of the sediment was suitable for aquaculture and no differences at the levels of sediment depth. Ash and lignin contents were higher in the west coast than the east coast and the mouth of Tapi river, and the high contents were expressed in rainy season. For phytoplankton, 98 species were found in cultured area and diatom was the dominant group both in type and content in two seasons. High productivity was found in rainy season than summer. Comparing to the size, the content of chlorophyll a from micro-plankton was shown higher than that from nano-plankton, while chlorophyll b and c mainly found in nano-plankton than micro-plankton. Chitinolytic and cellulolytic bacteria were majority in sediment, while sulphate reducing, proteolytic, lipolytic, and acidic bacteria were minority. East coast (Kanchanadit district) has shown the higher yield of cockle production than the West Coast (Chaiya district).