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SIRIPORN VORAKULDUMRONGCHAI : INFLUENCE OF WATER AND SEDIMENT
FROM SHRIMP FARMS ON STRUCTURE AND GROWTH OF MANGROVE FOREST AT
KUNG KRABAEN BAY, CHANTHABURI PROVINCE. THESIS ADVISOR : SANSANEE
CHOOVAEW, Ph.D. SANIT AKSORNKOAE, Ph.D. PIPAT PATANAPONPIBOON, Ph.D. 208 p.
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Influence of water and sediment from shrimp farms on structure and growth of mangrove forest at Kung Krabaen Bay, Chanthaburi province was studied by collecting water and sediment samples from 3 canals discharged from shrimp farms at areas close to shrimp farms, mouths of canals, coastal area and inside forest at the margin, middle and inland areas during high tide and low tide (only at the mouths of canals). Sediment and water samples were collected at the same locations. Water samples were analyzed for physical and chemical properties such as temperature, salinity, dissolved oxygen and biochemical oxygen demand, and soil properties were analyzed for texture, total nitrogen, phosphorus, potassium and organic carbon. The result indicated that the amount and sediment properties had impacts on structure and growth of mangrove species, particularly decreasing the number of species, changing of species zonation, decreasing natural regeneration by approximately 20.5 % of the total seedling density. However, the effect on stand density was insignificant. Regarding growth rate, sedimentation increased total height (more than 1 m/year) and diameter at breast height of mangrove species (0.4-0.8 cm/year). The influence of water quality on structure and growth rates of mangrove forest was not clear due to only 1 year study and needs to be further investigated. Basic data from this investigation can be used for sustainable integrated management for shrimp farming and mangrove forest conservation in the future.