

The Prediction of Plankton Diversity and Abundance in Mangrove Ecosystem

Title	The Prediction of Plankton Diversity and Abundance in Mangrove Ecosystem
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Abstract	<p>The abundance of phytoplankton and zooplankton have correlation with mangrove conditions in coastal area. The mangrove degradation give negative impact for abundance and diversity phytoplankton and zooplankton. The research aimed to analysis and construct prediction model of abundance and biodiversity of phytoplankton and zooplankton in mangrove ecosystem. The research used the transect method (to determine mangrove density), filtering method (to analyze abundance of phytoplankton and zoopankton) and statistical method (to develop estimation modeling of plankton abundance). The results showed that (1) the mangrove density between 250 trees/Ha - 1250 trees/Ha (2) the phytoplankton abundance were 10.675 Indv/L (in mangrove rarely) - 24.290 indv/ L (in mangrove high density), (3) the zooplankton abundance were 261 Indv/L (in mangrove rarely) - 2.204 indv/L (in mangrove high density) (4) The modelling analysis showed that (1) the phytoplankton abundance $(y) = 0.0303 x^2 - 22.059 x + 13004$ and (2) the zooplankton abundance $(y) = 0.0057x^2 - 5.39 x + 1458.2$, with $x =$ mangrove density</p> <p>Keywords: phytoplankton and zooplankton, mangrove density, abundance, estuary and lagoon</p>
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