Tropic Status Assesment in Segara Anakan Lagoon, Indonesia : Experience in Applying the Trophic Index Trix

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Abstract	Segara Anakan is a large lagoon, located along the southern coast on western part of Central Java, Indonesia 108 degrees 46'-109 degrees 05'E; 7 degrees 34'-7 degrees 48'S. It has an important ecosystem role as a nursery ground, so that it is important to have further study of the primary productivity. The human activities around the area and natural factors sedimentation has changed the inrush input to the lagoon. Feared, it will influence the change in tropic status of the lagoon, and will cause the average degradation of the primary productivity value. The aim of the research is to explore the study of the primary productivity in Segara Anakan lagoon (SAL) with tropic status assesment. Index TRIX has been used for evaluating long-term trend and spatial trophic pattern in the lagoon with linear combination of the log of 4 state variables: chlorophyll-a, aD%O, macronutrient : Total Nitrogen (TN) and Total phospat (TP). The main objective of this study is to estimating tropic status with spatio-temporal approach. The spatial approach is done on 7 stations (S) with representations: (S) natural factors and (S) the presence of anthropogenic activities. The temporal approach (time series) for a year refers to the monsoon wind pattern (west, transition I, east and transition II) season. The results of laboratory tests are discussed descriptively. Index TRIX assesment in SAL shows that point values, exceeding 6 TRIX units are typical of highly productive coastal waters, where the effects of eutrophication determine frequent episodes of anoxia in bottom waters and indicated by high Habs phytoplankton. The effects of highest rainfall at transition II season, anthropogenic pressure, aquatic hydrodynamics are thought to cause in the increasing of SAL macronutrients which trigger eutrophication of waters. Management and lagoon management strategies are required by the local government, stakeholders and communities to prevent the phenomenon of eutrophication of the lagoon.
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