ABSTRACT


Biophysical suitability of seawater is one of highly important indicators that should be considered for culturing tiger grouper (Epinephelus fuscoguttatus). Unsuitable site for the culture can influenced on low grouper production and on degradation of coastal environment. Objectives of this research are (1) to analyze biophysical characteristic of water of Mandeh Bay, and (2) to evaluate biophysical suitability of water for culturing the grouper. This research is conducted from April to May 2006 in Mandeh Bay, Pesisir Selatan Regency, West Sumatra Province. Environment data that needed are depth, temperature, salinity, transparency, turbidity, TSS, DO, BODs, chlorophyll-a, pH, tide, wave, and current. For analyzing biophysical characteristic of water of Mandeh Bay is used Principal Component Analysis (PCA); and for evaluating biophysical suitability of water is used Geographic Information System (GIS) method. The results show the Mandeh Bay is characterized by high values of parameters of temperature, TSS, turbidity and pH; and low value of parameter of depth. These parameters are highly influenced by existences of environmental characteristics of the bay such as mangrove, seagrass bed, river runoff, climate, settlement, and fish landing. Generally biophysical characteristics of water of Mandeh Bay are suitable for growth of the tiger grouper (Epinephelus fuscoguttatus) in the FNC, except for the water depth. The potential waters for the culture are in surrounding Cubadak Island, Mandeh Village and Simpang Carocok Village except the water in the Southwest of Simpang Carocok Village.

Keywords: tiger grouper, biophysical characteristics, water suitability