ABSTRACT

Decreasing of water quality and exceeding the loading capacity of water pollution are the main causes of the high mortality of cage aquaculture along the river in South Kalimantan province. The research objective was to analyze the river water quality profile, and to evaluate the loading capacity of water pollution around the cage aquaculture. The observations were made at 3 points (upstream, middle and downstream) along Harus river where is the center for the development of cage aquaculture in Banua Lawas District, Tabalong Regency. On each of these points, measurement of physico-chemical parameters of water and flow rates were carried out. Measurement and data collection were performed twice with intervals between measurements for 30 days. Water quality parameters analyzed were water temperature, pH, TSS, NH_3-N, NO_3-N, PO_4-P, BOD, COD, and DO. Based the eight water quality parameters measured, there were three parameters that tend to exceeding the loading capacity of water pollution on all the river segments, namely PO_4-P, (at middle = 16 kg day^{-1}, and downstream = 459 kg day^{-1}), BOD (at upstream = 301 kg day^{-1}, middle = 547 kg day^{-1}, and downstream = 2,086 kg day^{-1}) and COD (at upstream = 521 kg day^{-1}, middle = 380 kg day^{-1} and downstream = 1,249 kg day^{-1}). Exceeding the load capacity of BOD and COD were prone to cause depletion of DO in the river in which can potentially cause massive fish mortality.

Key words: cage aquaculture, the loading capacity, water pollution