

Received:October,5.2009 Accepted:November,10.2009

### Abstract

The Lake Sanaru is one of the representatives of coastal lagoon, and this system is well known as the most polluted aquatic system in Japan. In order to understand the water pollution mechanism of this lake, we applied the physical-ecological coupled model to this area. This study is still under model calibration stage. We changed the parameter values of potential growth rate of diatom, feeding pattern of carnivorous zooplankton, and mineralization rate of DOC, and examined the sensitivity of these parameters. These parameters were key factors in the model, and we could estimate appropriate order of these parameters from these calibration runs. By introducing optimum temperature for diatom growth, the succession between diatom and blue green algae can be reproduced well in the model. By reducing the mineralization rate of POM and DOM, the biomass of carnivorous zooplankton and inorganic nutrients concentrations are well reproduced in the model.

Based on the calibration run, the biochemical fluxes in Lake Sanaru in terms of nitrogen and phosphorus were examined.